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2: Westermarck E-5 (1898-1926) 1926
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had been to give a comprehensive account of all that is 114
known about the popular religion and magic of Morocco, their names would certainly have appeared more frequently in its pages. But its aim is less ambitious, being chiefly restricted to a presentation and discussion of the results of my own researches among the natives.

A considerable portion of these results have been previously published in the following essays and articles :— 113
"The Nature of the Arab *Ǧinn*, illustrated by the present Beliefs of the People of Morocco", in *The Journal of the Anthropological Institute of Great Britain and Ireland*, vol. xxix. (1900) ; "The Magic Origin of Moorish Designs", *ibid.* vol. xxxiv. (1904) ; "Sul culto dei santi nel Marocco", in *Actes du douzième Congrès International des Orientalistes, Rome, 1899*, vol. iii. pt. i. (Florence, 1902) ; "Midsummer Customs in Morocco", in *Folk-Lore*, vol. xvi. (1905) ; "The Popular Ritual of the Great Feast in Morocco", *ibid.* vol. xxii. (1911) ; "*L-ʻâr*, or the Transference of Conditional Curses in Morocco", in *Anthropological Essays presented to E. B. Tylor* (Oxford, 1907) ; *Ceremonies and Beliefs connected with Agriculture, certain Dates of the Solar Year, and the Weather in Morocco* (*Öfversigt af Finska Vetenskaps - Societetens Förhandlingar*, vol. liv. 1911–12, sec. B, No. 1 ; Helsingfors, 1913) ; *The Moorish Conception of Holiness* (*Baraka*) (the same series, vol. lviii., 1915–16, sec. B, No. 1 ; Helsingfors, 1916) ; *The Belief in Spirits in Morocco* (*Acta Academiae Aboensis, Humaniora*, vol. i. No. 1 ; Åbo, 1920). The facts and most of the theories in these publications have, more or less revised, been incorporated in the present work, but a large number of facts have been added, and the subjects concerned have also in other respects been treated more fully. Moreover, many new subjects, not previously dealt with by me, have been introduced ; so that at least one half of the work may be said to be completely new. Other results of my researches, not embodied in this book, are found in a purely linguistical essay, *Nomina im status absolutus und status annexus in der südmarokkanischen Berbersprache* (*Öfversigt af Finska Vetenskaps-Societetens Förhandlingar*, vol. lvi. 1913–14, sec.

113 B, No. 3; Helsingfors, 1914); and in my book *Marriage Ceremonies in Morocco* (London, 1914), a French translation of which, made by Madame J. Arin, has been issued by L'École supérieure de Langue arabe et de Dialectes berbères de Rabat (Paris, 1921).

000 I beg to express my most sincere thanks to Miss Helena Hadley for kindly reading over both the manuscript and the proofs. To her suggestions I am indebted for the improvement of many phrases and expressions, as also to some references to books with which she has supplied me when I have been out of reach of an adequate library. I have to thank my friend Professor C. G. Seligman for stimulating discussions and for information on certain points.

[122] I gratefully acknowledge the material support given me by the Rockefeller Research Fund Committee at the London School of Economics and Political Science by making liberal grants towards the expenses for my journeys to Morocco in the summers of 1924 and 1925.

My friend Carl Dahl, Consul-General of Sweden at Tangier, has much contributed to my comfort by his kindness in placing at my disposal his delightful country house for the many months I spent in Morocco in the course of the last two years.

E. W.

VILLA BALBINA, OUTSIDE TANGIER,
30*th March* 1926.

INTRODUCTION 1:

EMILIO BLANCO IZAGA AND THE SPANISH PROTECTORATE OF MOROCCO

114 Emilio Blanco Izaga (1892-1949), whose work, both unpublished and published, on the social structures and political systems of the Berber-speaking tribes in the Rif Mountains of Northern Morocco we have tried, in the pages that follow, to render into reasonably acceptable English prose, was a colonel in the Spanish Army who, before his untimely death, had nearly twenty years' administrative experience amongst the people whereof he wrote.

A preliminary assessment, by the present author, of Emilio Blanco and of his published work, has already appeared elsewhere[1]; but although much of the material presented in it need not be restated here, in the light of further and later knowledge on my own part, some recapitulation, especially that dealing with Blanco's biography, is certainly necessary.

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175 Blanco had much of extreme interest to say about the social structure and indeed about the everyday life of the Rifian tribesmen of what was then the Spanish, and now the North, Zone of Morocco, and especially about these same features, with particular attention to sociopolitical institutions, among the Aith Waryaghar: the key tribe, and the largest one, of the Central Rif, the tribe which always "commanded" in the region, the tribe which smashed the Pretender Bu Hmara

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[113] [1]--David Montgomery Hart, "Emilio Blanco Izaga and the Berbers of the Central Rif", *Tamuda, Revista de Investigaciones Marroquies*, VI, 2, Tetuan 1958, pp. 171-237.

121 as I have had to drop the revision of my original Blanco manuscript
in order to prepare my own studies on the Aith Waryaghar[3] (or, in
Arabic, Bni Waryaghal, and in bad Hispanicized and bad Gallicized trans-
literations, "Beni Urriaguel" and "Beni Ouriarhel") for publication,
as well as because of further fieldwork elsewhere in Morocco and be-
121 cause of teaching and other duties. Hence a ten-year gap. In any
128 event, Blanco's copious unpublished papers on Rifian architecture and
114 house styles[4], for example, good as they may be, have no place in a
work of this kind; and the same holds true for his work on grave
decorations[5] and for his excellent treatise on dance forms in the Rif[6].
His undeniable qualifications as an artist, whether in sketch or
watercolor form, I am simply not competent to discuss, although his
ideas about Spanish Colonial policy in Morocco[7] will receive some
attention in Section II.

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113 3--The Aith Waryaghar of the Moroccan Rif: An Ethnography, and The Aith Waryaghar of the Moroccan Rif: A History, to be published simultaneously under the auspices of the Wenner-Gren Foundation for Anthropological Research, New York.

4--Emilio Blanco Izaga, La Vivienda Rifeña, Ceuta: Imprenta Imperio, 1930, passim.

5--Emilio Blanco Izaga, "Noticia sobre Arte Funerario Norteafricano", Africa, No. 52, Madrid, April 1946, pp. 19-21.

6--Emilio Blanco Izaga, "Las Danzas Rifeñas", Africa, Vol. V, No. 55, pp. 315-316; Nos. 56-57, pp. 414-419; and Nos. 59-60, pp. 547-551, Madrid 1946. The content of this important paper is discussed in detail in my preliminary study: cf. Hart, op. cit., 1958, pp. 220-237. Two of the drawings originally published in it are reproduced in the present monograph.

7--Emilio Blanco Izaga, "Política Africana", Cuadernos de Estudios Africanos (pub. by Instituto de Estudios Políticos, Madrid), I, 1946, pp. 43-56.

114 As noted in my preliminary study (1958), the only article which has ever been published about Blanco is one by Alfonso de Sierra Ochoa[8]. It is devoted largely to Blanco's achievements during the late 1930s, when he was the regional administrator of the Territory of the Rif, both as an architect of administrative policy and as an architect *per se*, as well as touching briefly upon his artistic abilities. Of basic biographical information, as well as providing any assessment of Blanco as a military ethnologist and as a student of 121 Berber social life, however, it says nothing at all. My 1958 article and this present introduction will attempt to fill in these lacunae; and we begin with Section I, Blanco's biography.

Section I: Biographical Data[9]

114 Emilio Blanco Izaga was born on March 15, 1892, in Orduña, in the north Spanish province of Vizcaya, just west of the Basque country, and about 45 km. south of Bilbao. On August 30, 1910, he entered the Spanish Military Academy in Toledo where, on June 24, 1913, he was commissioned a second lieutenant of infantry, joining the 30th Regiment for garrison duty in Burgos. The following year he was sent to Morocco for the first time with the 6th Battalion of Figueras for duty in Larache, and the next two years saw him taking part in military

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(113) [8] --Alfonso de Sierra Ochoa, "Una Teoría de Arquitectura Politica y un Interventor Excepcional: El Coronel Don Emilio Blanco Izaga", in *Selección de Conferencias Pronunciadas en la Academia de Interventores durante el Curso 1950-1951*, Tetuan: Delegacion de Asuntos Indigenas, 1951, pp. 129-150.

[9] --This section is taken *in extenso* from Hart, op. cit., 1958, pp. 174-180. I am particularly indebted to Col. Blanco's son, Dr. Don Agustín Blanco Moro, of Madrid, and to Sr. Don Tomás García Figueras, of Jérez de la Frontera, who succeeded Blanco as Delegate of Native Affairs in Tetuan, for supplying me with the essential facts of Blanco's life.

000 sublet only the small northern dorsal ridge of the country (one-twentieth of the total extent of the Sultan's domains) as well as an equally small piece of its southwestern desert. Both of these widely disparate chunks of Moroccan territory (of which the former was turned over, with the French Zone, to Independent Morocco in 1956, while the latter was only ceded in 1958) were handed over to Spain because of Spanish "historic claims", as aforementioned, and, in a sense, as a sop to Spanish colonialist sentiments about Lebensraum in Morocco, of which more later. There is a considerable body of literature in Spanish which attempts to justify these claims, to assert that Spain was thwarted in the division of the protectorate spoils of 1912 (which, of course, is true), and which, in general, regards the Spanish Protectorate - a small, northern appendage of the French one - as a victim of circumstances, one which needed to be administrated as best it could.[10]

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113 10--For traditional Spanish views on the historical background of the Spanish protectorate, cf. Tomás García Figueras, La Acción Africana de España en Torno al 98 (1860-1912), 2 vols., Madrid: Instituto de Estudios Africanos, 1966, and for that on the presidios, cf. Enrique Arques, Las Adelantadas de España: Las Plazas Españolas del Litoral Africano del Mediterraneo, Madrid: I.D.E.A., 1966. For a variant viewpoint, with consideration of diplomatic sources, see Henri Marchat, "Les Origines Diplomatiques du 'Maroc Espagnol' (1880-1912)", Revue de l'Occident Musulman et de la Méditérannée, VII, 1, 1970, pp. 101-170. On the protectorate itself, there is a worthwhile English summary by Nevill Barbour in Nevill Barbour, Ed., A Survey of North-West Africa (The Maghrib), 2nd Ed., Oxford University Press: Royal Institute of International Affairs, 1962, pp. 67-69, 137-172. Cf. also especially Tomas Garcia Figueras, Marruecos: La Acción de España en el Norte de Africa, 4th Ed., Tetuan: Editora Marroquí, 1955, and España y Su Protectorado en Marruecos (1912-1956), Madrid: I.D.E.A., 1957.

000 the French *Bureaux Arabes* of Algeria, which, on the Spanish side, were certainly the direct inspiration on the *Intervenciones*. Contemporary Spanish sources, notably Capt. Candido Lobera, an influential architect of early Spanish policy in the Rif, as well as (from 1902) the editor of the Melilla newspaper *El Telegrama del Rif*, are quite explicit on this point - one on which later Spanish sources tend to hedge[13], possibly because of misgivings (in our opinion, totally unwarranted) regarding the French origin of the concept.

In the initial period after pacification, the Spanish authorities tended to divide up the administrative territories of their zone along ethnic lines entirely, but by the 1930s they had decided that such a division produced blocs of territory which were too unequal in size. Hence a compromise was reached, and one which, furthermore, did no violence to pre-existing tribal structures or territories. What it amounted to was, in effect, the division of the zone into five *territorios* or "territories" of more or less equal size, each with its regional or territorial capital and each with its regional or territorial interventor, the *Interventor Territorial*. Reading from west to east, these territories were: 1) *Jbala*, with its regional capital (apart from the zonal capital), in Tetuan, and consisting of 11 tribes

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[113] [114] [13] 13--Capt. Cándido Lobera Girela, *Memoria sobre la Organización y Funcionamiento de las Oficinas de Asuntos Arabes de Argelia: Proyecto de Bases para la Creación de Organismos Analogos en las Plazas en el Norte de Africa*, Melilla: Tipografia "El Telegrama del Rif", Sept. 1905, pp. 31-42. The title of this work alone is a give-away. Hence the asseveration of José María Cordero Torres (*Organización del Protectorado Español en Marruecos*, 2 vols., Madrid: Editora Nacional, 1942-1943, vol. II, p. 6) to the effect that the *intervenciones* were derived from the earlier Spanish *encomienda* system in Latin America may be regarded as completely erroneous.

000 (*qabilas*), for which there were 6 *Interventores Comarcales* (District Interventors), and 15 *Interventores de Primera Clase* (first-class interventors, generally army captains or lieutenants); 2) *Lukkus*, with its regional capital Larache (l-'Ara'ish), and 14 *qabilas*; with 5 *Interventores Comarcales* and 12, *de primera clase*; 3) *Ghmara*, with regional capital at Shawen, with 13 *qabilas*, 4 *Interventores Comarcales*, and 14, *de primera clase*; 4) *Rif*, with regional capital at Villa Sanjurjo (al-Husaima), and with 18 *qabilas*, 4 *Interventores Comarcales* (one for the Aith Wayaghar), and 17, *de primera clase* (of which three for the Aith Waryaghar); and 5) *Kart*, with regional capital at Nador, with 14 *qabilas*, 6 *Interventores Comarcales*, and 17, *de primera clase*[14].

These figures are worth citing not only because the North Zone contains some 70 tribal groups, as here defined (the figure is not quite accurate, erring a bit on the side of plenitude), but because it is, in general, one of Morocco's highest areas of rural population, especially in the Central Rif. The Spanish administration was evidently never completely cognizant of this fact (which came through very clearly as a result of the first census conducted in Independent Morocco, that of 1960), but nonetheless seemed to maintain a general awareness of it: for, as Montagne remarks, as of 1939, Spanish *interventores* seemed to outnumber their French *Affaires Indigènes* counterparts by three or four times, on the ground[15], in a comparative sense. (Sanchez Perez

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[113] [14] --T. Garcia Figueras and J.L. Fernandez-Llebrez, *Manuales del Africa Española, II-Marruecos*, Madrid; I.D.E.A., 1955, pp. 157-158.

[15] --Robert Montagne, *La Política Africana de España*, translation of unpublished report by Servicio de Intervenciones de la Región de Gomara, Chauen, Oct. 1939, 57 pp. (my ref. to p. 33). Catalogue No. Ca. C-14 in Garcia Figueras Collection, Seccion Africa, National Library, Madrid.

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114 (Sanchez Perez mentions the population density of the Aith Waryaghar, in the mid-1940s, as being 65 individuals per sq. km., a figure which would be outrageously high for much of the Atlas Mountains today, but which by the time of the 1960 census had in Waryagharland - or at least in the Plain of al-Husaima - doubled, virtually, to 120...[16])

000 Such facts indeed reflect the density of the local tribal population in the North Zone, but they also reflect the density of the local administration - and nothing has been said about urban administration, at that. The total population of the North Zone, in the 1950s, was just under a million; and even so, the thickness at ground level of administrative personnel would argue for a very direct form of administration. In actual fact, this was not quite so.

Each of the five territories of the zone had its Interventor Territorial, usually a lieutenant-colonel who reported directly to the Delegación de Asuntos Indígenas in Tetuan. Below him, in the administrative hierarchy, were several Interventores Comarcales, usually majors, and then Interventores de Primera Clase, usually captains, who were often seconded by lieutenant Interventores de Segunda who were the neophytes of the service, young men sent out to learn.

The real point about the intervencion system in the tribal areas, however, is that the Spanish interventor de primera, usually a captain, and the qaid or chief of the tribe which he administered were opposite numbers, each in his own separate hierarchy. For the interventor de

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[113] [16]--Andrés Sánchez Pérez, "Datos Históricos sobre Ciudades Rifeños", Selección de Conferencias y Trabajos Realizados Durante el Curso de Interventores 1951-1952, Tetuan: Alta Comisaria de Espana en Marruecos, 1952, pp. 29-47 (my ref. to p. 31).

114 It is now appropriate to introduce Emilio Blanco Izaga into this same *intervención* system, of which he made so much and for which, in the Rif, he did so much. His effectiveness was achieved largely in the decade of 1930-1940, during a period of extreme strife in Spain itself. One cannot, of course, have everything; but in one sense it is perhaps unfortunate that Blanco was unable to participate actively in Spain's war against 'Abd al-Krim: for it is possible that some of his ideas about the resuscitation of Berber Customary Law (*ca'ida* or *'urf*) in the Rif might have become considerably modified had he done so. He did not realize that by the time he himself had arrived on the scene, Customary Law was already a dead letter, and that 'Abd al-Krim, at the zenith of his power in 1923-1925 and in his role of religious reformer (for he was a former *qadi* who had been strongly influenced by the Salafiya Movement), had been responsible for its demise[17].

Thus, in 1930, Emilio Blanco, quite unwittingly, seems to have begun his career as an *interventor* with a possible strike against him. For 1930 was the year of the famous - or notorious - "Berber Dahir" in the French Zone; and although the official Spanish attitude toward it, and toward the formal support to be given to Customary Law - as opposed to Orthodox Maliki Muslim Law (with which it was in fact in agreement on most, though not all, major issues) - in the large Berber-speaking areas of the French protectorate, was one of outright

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[113] 17--Cf. Pessah Shinar, "'Abd al-Qadir and 'Abd al-Krim: Religious Influences on their Thought and Action", *Asian and African Studies: Annual of the Israeli Oriental Society*, I, 1965, pp. 139-174; and cf. also D.M. Hart, *The Aith Waryaghar of the Moroccan Rif: A History*, Chapter III, to be published.

disapproval, Blanco was to become a leading spirit of protest, on the Spanish side, in favor of the decree. His attitude about it evidently faithfully echoed that of many of his co-officers in the intervención service. They felt that the Spanish "Africanist League" should have had its way in 1925, while the Rifian War was still on, and seen to the imposition of Berber Customary Law throughout the Rif, from the Wuringa River on the west to the Nkur River and the Thimsaman to the east[18]. None of these people, Blanco included, had reckoned with the now departed 'Abd al-Krim, exiled by the French on Reunion Island (so that the Spaniards would not execute him), as the agent of social change that he was[19]. The plain fact was 'Abd al-Krim had effected so many changes in the Rifian politico-jural system that, once the war was over and disarmament of the tribes had been completed, the Spanish administration really had no option but to continue where he left off. It also would seem more than probable that the expenditure and outlay (to say nothing of the paperwork) involved in such a regional restructuring of the judiciary, or of one segment of it, would have been more than the protectorate budget could stand, particularly after a long and costly war.

Yet the evidence is clear that up, at least, until April 1939 Blanco kept forwarding indignant memoranda to the High Commissioner in Tetuan urging the adoption of a Customary Law system for the Rifians, along the lines of that already created by the French for the Berber

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(113) [18] --Cf. Cesareo Rodriguez Aguilera, Manual de Derecho de Marruecos, Barcelona: Bosch, 1952, p. 109.

[19] --Cf. D.M. Hart, "An Ethnographic Survey of the Rifian Tribe of Aith Waryaghar", Tamuda, II, 1, Tetuan 1954, pp. 51-86.

114 The creation of the new clan councils persisted until the end of the Spanish Protectorate in 1956; and in concluding our remarks about the protectorate it seems appropriate to make a brief assessment of the ideology behind it: for this ideology was strongly if not totally endorsed by Blanco himself, in a published article in 1946[21]. His viewpoint, nicely and previously gauged by Robert Montagne (himself a latter-day architect of Berber policy in the French Zone), in an unpublished paper of 1939, after a visit to the Spanish Zone just after the conclusion of the Civil War[22], may hence be taken as thoroughly representative. 000 Montagne refers to the central feature of this ideology as "encirclement", an almost claustrophobic Spanish fear of being hemmed in by both France and England, and the relevant passage in his paper is worth quoting (the translation is my own):[23]

> "Spain felt threatened both by France and England (i.e., at the time of the colonial "grab" in the nineteenth century: translator's comment), and hence to one part of enlightened Spanish public opinion, the mountains of the Rif and the Jbala represented a (polar) frontier with the Pyrenees which gave Spain a kind of strategic protection. But this frontier was badly defended: the profound unity of the Sharifian Empire, cemented by centuries of history, could not help imposing itself upon Moroccans of the Spanish Zone. On the other hand, great breaches are opened in the east by the Mulwiya Plains, the Aith Bu Yihyi gap which threatens Melilla, while in the center are the French observatories in the Igzinnayen, from which (Central Rifian) point the whole Plain of al-Husaima can be held under fire. (Translator's comment: 114

● [113] [21]--Cf. Emilio Blanco Izaga, "Politica Africana", op. cit., 1946.

[22]--Robert Montagne, *La Política Africana de Espana* (trans.), Servicio de Intervención de la Región de Gomara, Chauen, Oct. 1939, MSS., 57 pp., Catalogue No. Afr. GF Ca. C-14 (in Africa Section, National Library, Madrid).

[23]--P. 46 of Montagne, ibid., MSS., 1939.

128 that the responsibility both for the translation and for the arrangement of the materials is entirely my own.

114 We come now to the overall content of this work. It will soon become evident to the reader that Col. Blanco labored under a number of anthropological handicaps: 1) he was a soldier, with strictly a military mind; 2) he was evidently not fluent in Arabic, as evinced by the fact that he refers to Juan Gomez Jaen as the real translator into Spanish of the *qanuns* in his *LR*; 3) he was probably not fluent in Rifian, as evinced by his transliteration of Rifian terms in the text (many of which I have had to retransliterate); 4) he continually tried to force Rifian categories of thought into European molds; and 5) he made numerous errors of fact, mostly small, but a very few, gigantic.

These may seem unnecessarily harsh judgments to some, and it is certainly not my intention to tread on any toes. But despite Blanco's frequent errors of fact and occasional errors of interpretation, despite his tendency to romanticize the subject, and despite the strong influence exercised upon him by the work of Robert Montagne[26] (with whom, nonetheless, he could frequently disagree, as shown by his "rejoinder" of 1946 to Montagne's 1939 paper on Spanish African policy in the previous section: for Montagne's influence on the sociological thinking of French Protectorate officialdom was enormous), there is one colossal point in Blanco's favor: without any question, and in a very sure way, his work, throughout, creates a thoroughly Rifian mood;

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[113] 26--Cf. Montagne, *Les Berbères et le Makhzen dans le Sud du Maroc*, Paris: Félix Alcan, 1930, and *La Vie Sociale et la Vie Politique des Berbères*, Paris: Editions du Comite de l'Afrique Française, 1931.

114 on the hillsides, bringing the cries of victims and the echo of rifle
671 shots in its train" (LR, p. 19). Blanco's work is shot through with
443 references to the clan (or, as he calls it, fraccion), with its
182 market, as the basic Rifian patria - which of course applies better to large tribes like the Aith Waryaghar than to small ones like the Thafarsith, "Rifian Switzerlands" surrounded by more powerful neighbors.

114 By 1960, some of the finer points of the Rifian qanuns or
671 Customary Law documents had been forgotten even by members of the oldest
[681] living generation, e.g., such as how much is to be paid if one shoots at a man and misses him, or if one threatens him with a dagger, but
114 does not stab him. Blanco, and to a lesser extent Carleton Coon[28],
127 have both set down many of these common-law niceties; and Blanco's
[671] work has the additional merit (and we refer here primarily to LR) of being a translation and an analysis of primary documents, some dating as far back as the mid-eighteenth century. These are invaluable source materials for the long and unbroken period of the Rifian 'Ripublik' (as opposed to 'Abd al-Krim's Dawla Jumhuriya Rifiya, or "Rifian Republican State", 1921-1926, although he only constituted it "officially" early in 1923), which is today only a memory and, according to some, a skeleton in the Rifian closet. However, old tribesmen and even some younger ones who are less sophisticated - and who therefore generally make better informants - still grudgingly admit to admiring it and to looking upon it with nostalgia.

([113]) 28--Cf. Carleton S. Coon, Tribes of the Rif, Harvard African Studies, Vol. IX, Cambridge, Mass.: Peabody Museum, 1931. Coon's data on customary law come primarily from the tribe of the Igzinnayen, whereas the bulk of Blanco's come from their northern neighbors, the Aith Waryaghar.

FOOTNOTES:

101 671 114 1--This interpretation of a major sociological conceptualization of Moroccan political history, the dissident Berber tribal area, the area of customary law, as opposed to the Arab area under government control where Muslim law was administered, conforms in all respects to the views of the majority of French observers, who label *siba* as "anarchy" (which, indeed, it literally means: "anarchy, abandon") and who often overlook the fact that the rural areas of the *Blad al-Makhzin* were also organized on a tribal basis.

101 671 114 113 648 A later definition by Carleton Coon holds that the *Blad al-Makhzin*, the land over which the power of the Moroccan Sultans extended, was a "land of order", while the *Blad as-Siba*, whose inhabitants recognized the Sultan's authority spiritually while denying it temporally, was a "land of insolence" (cf. Carleton S; Coon, *Caravan: The Story of the Middle East*, New York: Henry Holt, 1951, pp. 295-323). This definition, though linguistically inexact, attains a higher degree of sociological sophistication than the preceding one because of and despite the fact that it pushes the analogy a step further.

More recently, Ernest Gellner has defined siba as "institutionalized dissidence" and "marginal or dissident tribalism" (*Saints of the Atlas*, London: Weidenfeld and Nicholson, 1969, pp. 2-5), and in a review article of two books by Moroccans who seek to interpret various aspects of their country's history ("The Struggle for Morocco's Past", *The Middle East Journal*, XV, 1, 1961, pp. 79-90, a review of Abdelaziz Benabdallah, *Les Grands Courants de la Civilisation du Maghreb*, Rabat 1958, and Mohammed Lahbabi, *Le Governement Marocain à l'Aube du XXe Siècle*, Rabat 1958), he contrasts the traditional French view of the *makhzin-siba* dichotomy and a radically reinterpreted view advanced by Lahbabi in which "the *same* (Gellner's italics) facts, the existence of dissident areas, which were used by the French to illustrate the failure and impotence of Moroccan government are used...to provide the basis for a Consent (hence Anti-Absolutist) Theory of the Moroccan historic constitution." Thus the tribes on the shadowy borderland between the *makhzin* and *siba* spheres of influence were presented with a sort of Social Contract situation.

101 196 668 It must be noted that in the Rif the condition known elsewhere as *siba* was termed *Ripublik*, and that this not only has nothing to do with 'Abd al-Krim's "Rifian Republican State" (*Dawla Jumhuriya Rifiya*), but also predates it in time. A primary aim of the "Rifian Republic", indeed, was to do away with the *Ripublik*.

181 104 2--Blanco does not define any of these terms at this point; he only does so later, in his MSS. chapter on *Family Organization*. All of them are loaded, as he hints, with institutional implications, and we propose to give here only thumbnail definitions for the reader's convenience. *Twiza* (Rifian *dhiwiza*) is perhaps best translated as "corvée", a group work project, generally organized for one day only, such as reparation of an irrigation ditch by those who use it, or voluntary assistance given by his neighbors to a man building a house, or, indeed, obligatory work of a communal nature (such as road repair) undertaken on behalf of the tribal notables or the government; this last, however, is usually termed rkwarfi (an Arabization and Rifianiza-

000 al-Krim's status quo in this respect.

671 114 Emilio Blanco, however, often expresses strong reservations about the efficacy of the Shari'a in the Rif, and--like the "Berber sentimentalist" he often betrays himself to be--actually chides the administration (but only in his unpublished work) for not reintroducing customary law to the Rif. Blanco's thoughts on this matter may have never reached the publication stage, but it is easy to see that he was deeply concerned about it. This is again, perhaps, a function of the (almost unconscious) influence of Montagne's Les Berbèreset le Makhzen upon his work and thought.

177 671 779 5--The umbrella (Rifian rmdhar) is the hallmark, rain or shine, of any important personage, actual or self-styled, in the Rif. However, why Blanco brought it into this particular context, we have no idea.

[554] [293] [114] 6--The divergence between "Islamic Law" and "Custom" in the Rif is, in an overall sense, less noticeable, certainly, than in other Berber-speaking areas of Morocco, especially the Middle and Central Atlas; and, as aforementioned, we have 'Abd al-Krim to thank for the theoretically harmonious equilibrium and, indeed, blend, between the two.

That, in a general way, it is the Shari'a which is followed (more or less) in all matters pertaining to 1) land, 2) marriage, and 3) divorce, while the elusive "Custom" tends to dictate any cases which do not have to do with these conceptualizations, will soon become apparent.

181 113 7--For further "value judgments" on this question, see David M. Hart and José R. Erola, "Rifian Morals", in Vergilius Ferm, Ed., Encyclopedia of Morals, New York; Philosophical Library, 1956, pp. 481-490.

000 8--i.e. by Western standards: another value judgment.

9--The dharfiqth, pl. dharfiqin, is, in the Rif, the patrilineal (and patrilocal) lineage par excellence, and although Blanco translates it as "grupo familiar", I shall refer to it as "lineage" henceforth, in both text and notes. Varying in both membership and depth, it may trace its 'apical" ancestor from, say, four up to as many as eight ascending generations removed from the speaker. Almost never, unless he is a sharif (in Rifian, amrabidh), or descendant of the Prophet Muhammad--whether de facto or de jure is in this case immaterial--and often not even then, can a Rifian trace his ancestry in a step-by-step progression beyond this particular apex, whatever its generational depth. The various lineage branches of the dharfiqth are also conceptualized as such by Rifians, and are called jajgu, pl. ijujga in Aith Waryaghar, and jij, pl. ijajjen in Igzinnayen and Aith Ammarth. [596]

10--Jma'th (from Moroccan Arabic jma'a) is the term generally employed to refer to all the people in a given local community. The Rifians do not use it in the sense which it is given in Arabic (as well as that accorded it by the former Spanish administration), that of "council, assembly", a sense which is more restrictive. However, the triliteral root jm' in Arabic, meaning "to come together, congregate, collect, add up", is ultimately permissive of both notions, for from it is also derived the noun jum'a, "Friday", as well as jami', "mosque". One may [193]

000 arranged in spatial terms. The correspondence between a terri-
torial system and a lineage system is always approximate, and some-
times, even, very close indeed, but it is, for a variety of reasons,
never quite complete.

16--"Group" is hardly the right word to give to an institution or a
[114] socio-cultural category; but one can see that it was well intended
and that Blanco was groping in the right direction. In most in-
[128] stances in which his choice of terms is obviously wrong, we have
tried to rectify this by the substitution of other words which seem
more nearly to fit the context.

17--*Imrabdhen*, sing. *amrabidh* (from Arabic *murabit*) are saints, living
or dead, who, in the mind of the average Rifian, are often confused
with *shurfa*, or descendants of the Prophet. The role of imrabdhen or
[627] shurfa as moderators in intra- or inter-tribal disputes is, indeed,
perhaps the primary one which they (or some of them, for there are
[628] many who are functionally completely indistinguishable from ordinary
tribesmen) play in Rifian society.

[563] 18--The role of Jews in the Rif is indeed a primarily economic one--
they are jewelers and pack-saddle makers, and their social status is
(or was, as there are none left there today) the humblest in the
area, for they never carried arms and were always under the protection
of a clan or lineage headman who, if necessary, would defend them to
the death. In short, they were and are despised, but their services
[114] were needed. But why Blanco mentions them, an ethnic group, in the
same breath with a series of economic institutions is a bit difficult
to fathom.

181 19--As noted, the Rif formed an integral part of the *blad as-siba*, and
Blanco's conceptualization of Rifian society as representing an "organ-
114 ized anarchy" may easily, in the traditionalist frame of reference, be
extended to cover the whole notion of *siba*. In another publication we
have already set forth our views on the usual French definition of
this term, which goes back to Montagne, of *siba* as "anarchy", a notion
which seems to us, in the last analysis, invalid, implying as it does
a complete lack of government (cf. David M. Hart, "Emilio Blanco
Izaga and the Berbers of the Central Rif", *Tamuda*, VI, 2, 1958, pp.
171-237). More recently, however (and a point which we overlooked in
the abovementioned article), there has been a certain modification by
at least one French scholar of this traditionally accepted viewpoint--
[113] cf. André Adam, *La Maison et le Village dans Quelques Tribus de
l'Anti-Atlas*, Collection Hesperis, vol. XIII, Paris: Larose, 1951,
p. 30, and personal communication, 1959. This modification, in effect,
[619] concedes that anarchy within Berber society is an inapplicable term,
but that it is still valid if the society is viewed from without, or
from above, because the highest organizational or structural stage
which Berbers have attained is that of the tribe only, never that of
the nation-state. And if we read between the lines of Blanco's words,
this, or something akin to it, is very probably what he had in mind
when writing of "organized anarchy".

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114 However, we would still take a somewhat more charitable viewpoint, and question the somewhat ethnocentric notion that a tribal society is any more "anarchical", even in an "organized" sense, than that of a nation-state. In any event, all this terminology is taken from Montagne (op. cit., 1930).

000 20--Blanco uses the term ramo ascendiente, which, in the sense that a jajgu is conceived of as a branch (ramo)--the Rifians employ the term azwar, pl. izuran, "vein", in this connection--of a dharfiqth or or lineage group, is very apt. The use of a term such as "ascending", however, depends entirely on which way one looks at Rifian tribal segmentation: from the bottom up (nuclear family to tribe) or from the top down (tribe to family).

We have found, however, that, except in the single instance of the recitation of their own personal antecedents in unilinear progression to the ancestor who forms the "apex" of the lineage, Moroccan tribesmen invariably tend to give the segmentation of their own tribes starting from the top and working downwards. In the Rif, [631] [681] indeed, this approach to the segmentary system is greatly reinforced by the method of dividing up the fines (r-haqq) imposed upon murderers by the members of the tribal council. The division of such fines follows traditional segmentary lines as closely as possible; in such instances where this is not possible (and they are very few, only occurring in cases of territorial discontinuity among the larger lineages), it follows the next best thing, the territorial system, which is in essence nothing but the lineage system spread out spatially on the ground.

[634] [114] [113] 21--The term "canton" is taken from Montagne (op. cit., 1930), and is also employed by Carleton S. Coon, Tribes of the Rif, Harvard African Studies, vol. IX, Peabody Museum, Cambridge, Mass., 1931, p. 91. It is a valid enough designation for the watershed canyon, ravine and gorge-studded districts of the higher mountains in the Rif (Konrad Wiche, "Marokkanische Stadttypen", in Festschrift zur Hundertjahrfeier der geographischen Gesellschaft in Wien, 1956-1956, Vienna 1957, pp. 485-527, also employs the term Talschaften for similar districts in the Western Atlas), but loses its force if one attempts to apply it to the Plain of Alhusaima or the open rolling country of the Eastern Rif.

22--Khums (Rifian dhakhammasth) means "fifth", and is used only in the case of tribes which have five clans or maximal segments, such as the Aith Waryaghar, Igzinnayen (among whom, in fact, this alignment seems to have little functional significance), Thimsaman, Axt Tuzin, Aith Wurishik and Aith Sa'id. Furthermore, when it is said of any tribe that it "has five 'fifths'", this is an implicit admission that the tribe in question is a strong one. For a structural-functional analysis of the "fifth" among the Aith Waryaghar and elsewhere, see David M. Hart, "Segmentary Systems and the Role of 'Five Fifths' in Tribal Morocco", Revue de l'Occident Musulman et de la Méditérrannée, III, 1, 1967, pp. 65-95.

[114] Far more common in Rifian parlance, however, is ar-rba', pl. rurbu', literally "fourth" or "quarter", which Coon (op. cit., 1931, p. 91) has equated with "canton", and in doing so, has noted that,

000 [114] paradoxically, a "fifth" is larger than a "fourth"--so he employs "canton" to avoid confusion. He has failed to see that essentially, the two terms are interchangeable (a fact which once again underlines the fluidity of Berber and Arabic social unit terminology) and that ar-rba', which is almost always used to denote maximal segments in tribes possessing less than five of these, is also employed, more often than is khums, to designate the five maximal segments of tribes which do have "fifths".

[343] [114] [113] 23--There are no collective storehouses in the Rif proper, as there are all over the Atlas, and here Blanco has committed a major error. However, Montagne has signalled their presence in parts of the Ghmara, to the west of the Rif. See R. Montagne, Un Grenier Collectif de l'Anti-Atlas: l'Agadir des Ikounka, Paris: Larose, 1930.

24--It is somewhat difficult to understand precisely what Blanco means in this connection. However, his MSS. chapters on religion and economics were only evidently projected, and never written.

25--Dhaddarth is properly "house", and dhimssi (lit. "fire") is "hearth", whereas the normal word for nuclear family is nubth, pl. nubath, lit. "turn".

26--In the original, la major fuerza y derecho es el de los mas fuertes. Indeed, Rifians themselves generally conceptualize the cultural goals of their society during the 'Ripublik' in very similar terms.

27--In the original, un contrato de compraventa. Marriage is indeed conceptualized contractually in the Rif, as elsewhere in the Muslim world, but it need hardly be pointed out that compraventa, "buying and selling", is highly misleading.

28--The word "absolute" is, in this connection, of course, extreme; but, considering the position of women in Spain itself at the time, it is interesting that a Spaniard should have employed it.

29--The marriage contract document, or zujiya, is written (both today and as far back into the past as any Rifian's memory goes), in conformity with the Shari'a. It says, in effect, that A, son of B, has married X, daughter of Y, in the presence of C, D, and E, and is signed by a qadi (judge of Shari'a law) and two 'adul (sing. 'adl), [114] or notaries public. Blanco is in error in saying that the zujiya document was unwritten until recent times, because during the "Republik" period, the fqih or schoolmaster of the local mosque--a man [illegible] was and is usually only slightly more literate than his constituents--drew it up. It is in any case axiomatic in the Rif [692] that whatever other cases (primarily criminal) that he did not handle, a qadi invariably resolved all matters pertaining to: a) marriage, b) divorce, and c) land. This means, in turn, that in all these cases, the necessary documents were drawn up in Arabic--at least theoretically!

[114] 30--This is not so today, nor, we suspect, was it so in the past. Every Rifian has a number of documents, all carefully guarded in his house; and, in addition, most holy men or shurfa have always had genealogical family trees to prove the "genuineness" of their own pedigree.

000 47--An individual does not, *sensu stricto*, enter a *liff* on his own,
[613] but is rather affiliated automatically with the *liff* or wider alliance
to which his lineage belongs, although he may later switch his
allegiance to fracture lineage unity. (This is not uncommon.)

[171] 48--The number of Rifians who are adherents to Muslim religious
brotherhoods (a wide-spread phenomenon in other parts of Morocco)
is not large, although it has remained fairly constant even after
Moroccan independence and the wane of the fraternities' influence
on the Moroccan political scene. For a discussion of the role of
[113] brotherhoods in Morocco, see F. S. Vidal, "Religious Brotherhoods
and Moroccan Politics", *Middle East Journal*, 1950. ...The most
important brotherhood in the Central Rif is the Darqawa, with adepts
[668] in the Aith Waryaghar, Aith 'Ammarth and Igzinnayen; it is said that
'Abd al-Krim himself was a member of this order originally, but
that on his rise to power he suppressed all brotherhood activities
in a clean sweep in order to minimize the possibility of their
turning against him. Other orders include the 'Alawiyin, among some
of the mountain segments of the Aith Waryaghar, and the Tijaniyin
and Nasiriyin in the Igzinnayen.

562 49--Here again Blanco is in error, as *habus* has nothing to do with the
return to her father's house of a divorced woman. *Habus* is a religiouse
428 or charitable endowment, and in Morocco it usually takes the
form of a property donation to a religious institution, such as a
114 mosque or a saint's tomb. The word implies, always, property which
423 has been set aside; and although Rifians do not admit any notion of
[794] "private *habus*" in theory, they do so in practice. In the Central
Atlas, for example, a man who is afraid that his sons will sell his
land may put it in a state of *habus*, as it were, to prevent them from
doing so; and while such a notion is unthinkable to Rifians, it is
equally unthinkable that a son would sell his father's patrimony!
Thus the idea of *habus* is intimately linked with that of indivision,
and, as such, it has a bearing on the position of women with respect
to inheritance rules. Although women theoretically inherit both real
and movable property, their share almost invariably remains, in
practice, in the hands of their fathers or brothers when they marry.
Rifians say that it is perfectly permissible for a married women to
come back to her father's house and cultivate her property; but that
this is an evasion is readily seen from the fact that in Morocco it
is men and not women who cultivate property! Thus, in effect, the
"*men's habus*", of a private rather than a religious nature, safeguards
a daughter's share of the inheritance--for the sons! For a discussion
[113] of this problem in the Sus and Anti-Atlas, see Andre Adam, "Les
Origines Ethniques de la Population Marocaine Musulmane de Casablanca",
in Anthony F. C. Wallace, Ed., *Selected Papers of the Fifth International
Congress of Anthropological and Ethnological Sciences*,
Philadelphia, September 1-9, 1956, Phildelphia: University of Pennsylvania
Press, 1960, pp. 371-76 (our reference to p. 372). Adam
refers to this problem within the context of temporary emigration of
small grocery-store keepers from the Anti-Atlas to Casablanca.

000 in the social organization of the area as a whole.

57--Blanco mistakenly transcribes this as islifen. In Rifian, this has an entirely different meaning, for isrif (pl. isrifen) is an affinal kinship term signifying "wife's sister's husband". Thus, two men who marry sisters are isrifen to each other.

58--Jma'ath does not, except in official Spanish parlance, properly
[196] mean council. The term for council is Aitharba'in or Aitarba'in (sing. utharb'in), literally "people (e.g. representatives) of the
[114] people" and not "sons of (or people of) the forty", as numerous other authorities (including Coon, op. cit., p. 96, and José Martos de
[113] Castro, "Lo Bereber en Marruecos y Sus Relaciones con lo Ibero", Alta Comisaria de España en Marruecos: Labor de España en Africa, Barcelona 1946, pp. 309-333, have indicated. Lionel Galand, however, favors on linguistic grounds the "people of the forty" etymology for the Berbers of the Sus, however (personal communication).

59--What a Rifian generally says is Nish zi dharwa n fran, "I am from the sons of so and so", mentioning the name of his dharfiqth rather than the word dharfiqth itself, when the question of lineage identity, within the clan, comes up.

60--Definitions of this kind were very much the rule, it might be added, among both the French and Spanish tribal administrators, most of whom were military men.

[114] 61--This is an instance of Blanco's constant inclination to divorce what he considers "social units" from those he considers "political units". The distinction, of course, is very largely an artificial one, for the higher up the purely "social" units go in the scale, the more "political" they tend to become, and vice versa. It is, once again, a classic example of European rigidity in classification (and the ever-present desire to put abstractions such as sociopolitical units into neat pigeonholes) as opposed to the essential fluidity (and consequent tendency to elude neat pigeonholing) which, we feel, is so basic to an understanding of these units, not only as they exist in Rifians' minds but as models structurally conceived by the anthropologist. And this means, above all, that each unit can only be understood in relation to all the others, not only on the same level of segmentation, but on those above and below it as well.

It is quite true that in some individual jma'ath-s, lack of kinship between component dharfiqin is an overriding factor in group composition; but this is by no means the case for all of them, and is really the exception rather than the rule.

62--This latter may be the correct derivation; Rifians who know enough Arabic to be conscious of the metathesis (and they are few) sometimes consciously pronounce the word dhafriqth. But the first possibility seems equally valid, that the word is derived from the root r-f-q, "to accompany" and that it refers hence to "men who march and fight together". Cf. Jacques Dumaine (probably a pseudonym for Robert
[115] Montagne), "Les Eléments du Problème du Rif", Renseignements Coloniaux et Documents Publiés par le Comité Algérie-Tunisie-Maroc, No. 2, bis, 1926, pp. 89-99.

000 and Sundays at Thisar, in the very center of the tribal territory (now held at Thamasind); II) Ibuqquyen--Tuesdays at Izimmuren (now defunct), Wednesdays at Anu in Azghar (now defunct), and Sundays at Ruwadi; III) Ktama (which now has only two markets, Tuesdays at Ktama and Sundays at Iqqawen)--Argiwen in clan of Bni Tmim in Swahil, Makhzin in Ulad 'Abd l-Ghaya, Imaten in Tamsaut, and Bab s-Saqiya in Amzaz (no days of the week are listed, and whether or not any of these markets are the same as the above two we do not know); IV) Aith 'Ammarth--clan of Yinn S'aid Ikhrif--blank; clan of Aith r-Hasayn--Mondays, serving the whole tribe; clan of Ija'unen--blank; clan of Aith 'Abbu-blank.

[114] 80--Aside from the rather far-fetched idea of nomadism, this notion of Blanco's is not unlike one expressed to me by Ernest Gellner (personal communication, Sept. 13, 1960) regarding segment or clan names among various tribes in the Central Atlas: "When a tribe migrates to and/or conquers a new territory, all its forces are required; hence all segments are represented, and hence each segment gets a share in the spoils of the new territory. This means, however, that the old "top segments" now stand for relatively small groups in the new place, and in due course the whole lot of them in the new place come to be known either by the place name and in effect add a new segment, or one of the old top segments comes to cover the lot of them in the new place, so that, locally, the other previous top-level names now move one down relatively to it.....This might be illustrated by Ait 'Atta, Ait Yafalman and Ait Sukhman groups, by comparing inconsistencies in the segmentary naming system from place to place".

[113] 81--Blanco only touches here on the highly interesting and important problem of the respective and complementary roles of genealogy and geography in tribal, clan and segment names in the Rifian area; for a fuller discussion of this subject, see our "Place and Tribal Names among the Arabo-Berbers of Northwestern Morocco: A Preliminary Statistical Analysis", Hesperis, 3e-43 trimestre, 1960, pp. 457-571.

[114] 82--This is an error. Friday is the Muslim day of rest, although not in exactly the same degree that Sunday is among Christians. However, the contrast made by Blanco here is challenging from another point of view: attendance at market on market day seems to be greater, both from an absolute standpoint and from the standpoint of percentage, than attendance at the mosque of the sermon on Fridays.

83--A clan may be either predominantly geographically based, in which case the propinquity of its members overrides what is essentially their non-relationship to each other; or it may be structured in terms of a common patrilineal ancestor, whose name is perpetuated even though the genealogical links which lead to him may be forgotten; or both.

84--Blanco in this sense means qanuns when he refers to customary law. As will be seen in La Ley Rifeña, the fact of whether a single tribe contains a qanun applicable to all of it or whether each clan has in effect its own qanun is largely a function of the size of the tribe in question. Virtually each clan (and in some instances each jma'th of a

000 huge tribe like the Aith Waryaghar possessed its own *qanun*, whereas a small tribe like the Aith Siddat in the Sanhaja Srir had only one *qanun* for the lot of them.

[114] 85--The idea which Blanco conveys here, i.e. that the whole Rif is in the last analysis split into two opposed *liffs*, is completely exaggerated. It is certainly true that each Rifian tribe is split more or less down the middle and contains two hostile factions, which are not always equal in size; but, on the outside, each of these tends to be allied only with that combination of clans in the next tribe which is politically favorable to it. The system thus tends to appear like a series of interlocking concentric circles rather than like a chessboard, as in the Western High Atlas and Anti-Atlas, if Montagne, op. cit., 1930, is correct. [113] (More recently, however, some reservations have been recorded by Jacques Berque on the overall validity of Montagne's *liff* theory: vide J. Berque, *Structures Sociales du Haut Atlas*, Paris: Presses Universitaires de France, 1955, pp. 42 sq.) A further difference is the size factor: in the Rif, far larger blocs of man-units are involved in each alliance than in the Western Atlas, though the territory encompassed may in fact be much smaller.

[171] 86--This is true among the Berbers of the Middle and Central Atlases, who have a very complex system of election of chiefs, but not for those of the Rif, where headmanship and chieftainship have always been a "dog-eat-dog" proposition, and where a councilmember attended council meetings until he was murdered.

[114] 87--This kind of legal terminology has always been in vogue in French and Spanish monographs and administrative reports about Berbers. To be sure, it describes the situation with reasonable accuracy, but in our view tends to put it far too neatly into a Western conceptual straitjacket.

[114] [794] 88--The *fqih* has nothing to do with *habus* property, which was looked after by the *mqaddim n-tmzidha* or caretaker of the mosque, and ultimately still is, on the local level, although at the provincial level the *ndzir l-ahbas* or *habus* administrator, has fulfilled this function since protectorate times.

89--The functions of a *talib* and those of a *fqih* are, in the Rif, almost interchangeable; indeed, the plural form of *fqih*, to most Rifians, is *tulba*. Technically speaking, a *fqih* is a teacher in a mosque, while a *talib* is a sort of post-graduate student, a "seeker after (Koranic) knowledge"; but the experience and abilities of the two are just about the same. Both are called upon to write out charms of all kinds, etc., and both are always addressed by the term *Si* ("Mr."), followed by their names, e.g. Si Muhammad, Si Mhand, Si ʿAmmar, Si Hmid, in recognition of their (relative) literacy in Arabic.

[114] [346] 90--To our knowledge, each man who had them kept his own arms and ammunition in his house. A mosque, after all, is a house of peace, not an arsenal!

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7 [114) 109--In the Rif, to our knowledge, there was never a special "market chief", although this office existed in certain parts of the Central Atlas.

[565] 110--The market crier, like the blacksmith and members of certain other occupational groups, occupied a very low rung on the Rifian social ladder, and can in no way be considered as a "tribal functionary".

[533) [534) 111--The imdhiyazen, or professional singers of couplets at weddings and players of the zammar (an instrument with two mouthpieces and two flaring ends, each of which is adorned with a cow's horn), the flute and the tambourine, who invariably come from the tribe of the Axt Tuzin, own no property in their own rights, and double as mule and donkey breeders.

[113] 112--For a detailed account of the dance of the ibarudiyen of the Aith Waryaghar, see Emilio Blanco Izaga, "Las Danzas Rifeñas, Africa, nos. 55, 46-7, 59-60, Madrid 1946, pp. 315-16, 414-19, and 547-51., as well as our own article, "Emilio Blanco Izaga and the Berbers of the Central Rif", op. cit., 1958, pp. 232-37. [648) This dance was stopped by order of 'Abd al-krim during the Rifian War in order to save cartridges, and was afterwards forcibly discontinued because of the post-protectoral prohibition of firearms in the Rif. Our account is only a translation of Blanco's, with comments.

(113--Diagram.)

[114) 114--The social structure of the Aith Waryaghar is indeed complex, and this admission by Blanco is a strange contrast to his earlier diagnosis of it as "rudimentary". Although in all essentials it is exactly the same as that of the other Rifian tribes, it is more intricate because of certain variations between the lineage structure and the territorial system. These variations are expressed in terms of spatial discontinuity between certain subsegments bearing the same names, as hinted at in Section F above; and it is this same discontinuity, virtually non-existent among the other Rifian tribes (and where it does exist, only in embryonic form at the level of the minor and minimal lineages), which is, in fact, one of the central arguments advanced by Blanco in the present section. Our own opinion is that it is intimately linked with the notion of lineage scission.

Among certain transhumants in the Eastern Atlas, notably the Ait 'Atta and Ait Saghrushshan (there are no doubt other well-authenticated examples as well), this kind of discontinuity assumes classic proportions, for it is elevated to the tribal level as well. The fact that it exists among the Rifians of the Aith Waryaghar, however, leads me to believe that it is not primarily connected with the economic organization under consideration (sedentarism or transhumance), but rather with gradual shifts, over time, of tribal clans.

115--The discontinuity alluded to in note 114 had long been an established fact when 'Abd al-Krim rose to power, and there was no reason for him to attempt to change it through, presumably, any regroupment of jma'ths. Such a change would in any event have been highly artificial, and it seems logical to assume that he was fully aware of this.

623 116--This market was located in the exact center of the tribal territory
631 of the Aith Waryaghar, at the point of convergence of all three
qa'idates (l-Uta, Upper Ghis and Nkur) alluded to above, and all
131 questions of import to the whole tribe were usually settled or decided there.
443 *Imgharen* from all of Aith Waryaghar came to this market
when the full tribal council was convoked.

[646] The Sunday Market at Thisar has ceased to exist since the
[648] Spanish pacification of the Rif; the Spaniards moved it slightly north
to Thamasind, a market, also held on Sundays, which is attended only
by members of the immediate subsegments in the vicinity, and which is
much smaller, in size and status, than its predecessor.

443 117--For more detailed descriptions of women's markets, see Andrés
562 Sánchez Pérez, "Zocos de Mujeres en Beni Uriaguel", *Africa*, Madrid,
May 1943, pp. 22-23, as well as two works of our own, D. M. Hart,
[113] "An Ethnographic Survey of the Rifian Tribe of Aith Waryaghar",
Tamuda, vol. 2, no. 1, 1954, pp. 51-86, and "Emilio Blanco Izaga and
the Berbers of the Central Rif", *Tamuda*, vol. 6, no. 2, 1958, pp.
171-237. (Specific references in the two latter cases are from pp.
80-1 and pp. 201-3 respectively).

Some recapitulation, however, is necessary for the purposes
of the present work. Special women's markets, which men are forbidden
[171] to attend, are not uniquely Rifian, for they are also reported
for the tribe of Ihahan on the Sus coast between Mogador and Agadir.
443 Montagne (op. cit., 1930, pp. 251-2) thinks that because in both the
Sus and in the Rif they are more or less confined to the coastal area,
562 they may, through their rigid segregation of the sexes, reflect a
114 greater degree of Islamization in these areas, for they are not to be
found anywhere in the Atlas. Sánchez Pérez, who also cites the existence
of women's markets in Ihahan, favors a diffusionist theory in
accounting for their presence in such widely separated areas as the
Rif and the Sus.

This kind of thinking must be relegated to the realm of idle speculation. More important, however, is the rationale which Sánchez Pérez gives for the existence of women's markets. He says that the Aith Waryaghar themselves cannot account for the origin of this phenomenon (which is true); but when he states that they ascribe it to the need for the continuance of commercial interchange during the Republik, when all segments and subsegments of the tribe were perpetually at feud, and when only women, as non-combatants, were respected and came, in effect, to handle normal business transactions during such emergencies, he is, I strongly suspect, putting words in their mouths. His argument falls of its own weight, for why, then, should regular weekly markets (i.e. non-women's markets) continue to function all through *siba*, as they did? He does not take into consideration the primary *raison d'etre* of the Rifian market, which Blanco correctly interprets as a "place of peace"; for market day was the *one* non-feuding day (with Friday, perhaps, a poor second) of the week!

443 The truth of the matter, very probably, is that because the
men of the Aith Waryaghar have always zealously guarded their women-
562 folk and have never let them attend normal markets (although this
has broken down somewhat as a result, possibly, of greater security

000 [114) 135--Although he does not couch them in anthropological language, Blanco here elucidates certain principles which are so common to most segmentary systems as to have become anthropological platitudes, since Evans-Pritchard's work among the Nuer. They were not, however, platitudes in 1935, and Blanco's perspicacity in stating them (even if obliquely) should be commended.

● [113] [144) 136--For competent discussions on the racial affiliations of the Rifians, see Carleton S. Coon, The Races of Europe, New York: Macmillan, 1939, and Coon, 1951, op. cit., pp. 156-7.

But why should the Rifians be aware of their own racial affiliations well enough to "forget" them? They know they are whites, and they know they are Berbers (the latter example of self-knowledge is particularly well developed at the present day, since the independence of Morocco, and contains definite political overtones); and these facts, to them, are sufficient, genealogies and traditions explaining all the others.

137--Ghis, in Moroccan Arabic, means "mud", and a better name for the river in question could not be found.

138--The sixth "clan" of the Jbil is in reality made up of three subclans which are "brothers" of the members of two of the other five "ancient" clans which Blanco mentions above: Aith Turirth are "brothers" of Aith Yusif w 'Ari, Timarzga are "brothers" of Aith 'Ari (Aith Yusif w 'Ari and Aith 'Ari in turn form the two top segments of one major clan, that of Aith Yusif w 'Ari and Aith 'Ari--it has no proper name, on this level, of its own), and Aith 'Arus are "brothers" of Aith Hadhifa. These three subclans, being contiguous to each other in the mountain massif of the Jbil Hamam and discontiguous to their larger "clan brothers" mentioned above, formed a single administrative unit under a shaikh during Spanish times.

139--Blanco's recommendation to do away with the khalifa or representative of the qa'id in order to make for greater administrative simplicity was not acted upon by the Spanish authorities.

[622] [184) [648] 140--The office of jari or village headman is one which exists only among the Aith Waryaghar. In all other tribes, the village headman is the mqaddim, who in Aith Waryaghar became the head of the administratively created "sub-fraction", while the "fraction" itself was under a shaikh. The creation and insertion by the Spaniards of another tribal office-holder on a level between that of village and clan (where no such office-holder had existed previously) was their answer to the greater segmentary intricacy, larger territorial units and greater population of the Aith Waryaghar. And last, but not least, Blanco's division of the total tribal territory into three blocs, each under its own qa'id, and each perforce following territorial rather than segmentary lines (owing to the frequent geographical discontinuity of subsegments), was, in the last analysis, the best and indeed the only way to make for an effective tribal administration.

141--This phrase comes from Hanoteau and Letourneux' famous reference to the Thajm 'aith of Kabylia as "la pierre angulaire de l'edifice berbère".

671 housebuilding, although here women help, in return for male protection.
428 Women are disregarded here, for in these aspects of movable property,
562 to the formation of which, in the last analysis, they have not ultimately contributed, they receive nothing. On the other hand, in such work as befits their sex, nothing is denied them (even including cereals, for they contribute to the harvest by reaping grain with a sickle and transporting it, on their backs, to the threshing floor.) This notion is linked with the manner of acquiring property through inheritance, purchase or even through force (i.e. blood vengeance)[15]. Property gained in any other way is illegitimate, and as men are the ones who gain it, they have no reason to divide ir or share it with women.

114 D) Points Regarding Arabic Work on Anti-Sunna Traits (fragmentary):
● 113 I hereby review a work in Arabic by Muhammad bin 'Ali bin Brahim Aqibli Amshali al-Susi[16], dated 1342 A.H. (1923-4 A.D.), and published
114 by al-Fatimi ibn Muhammad al-Shagadi. In this work the author exhorts
798 Berbers to give up practices which are irreverent and contrary to the *sunna*, the Custom of the Prophet, and lists those which are to be condemned, as follows:

798 1) Irreverent Customs at the 'Ashura:[17] Carnivals. The author
796 rejects all forms of bonfires, of costume and of representation, i.e. imitating animals, birds, old men and old women, as well as the use of obscene words and the wearing of transparent clothes. I have myself seen all this practiced in the Rif[18]. Regarding the use of bonfires, it seems that in the Rif they are lit up to smoke the trees as a possible disinfectant[19].

FOOTNOTES:

000 1--With varying degrees of success, most so in the Middle and Central Atlas, and least so in the Sus and Anti-Atlas. The inclusion of the Algerian Kabyles and Shawdya of the Auras in this connection invites other problems.

[114] 2--Blanco is mistaken here, for the Arabization of the Rif was the work not of Spain but of 'Abd al-Krim; and in view of this paramount fact, his plea for a return to a hypothetical state of "pure customary law", however eloquently expressed it may be, seems passe and academic.

3--Hardly. In any case, this is a more difficult and delicate problem than meets the eye, although even on an *a priori* basis it seems reasonably safe to assume that the Arabization of custom is the commoner of the two phenomena. However, for a documented example of Berberization of the Shari'a, see S. Biarnay, "Un Cas de Regression vers la Coutume Berbère chez une Tribu Arabe: Wadras", *Archives Berbères*, vol. I, no. 4, 1916, pp. 219-229. Wadras is an Arabic-speaking tribe, but one of indisputably Berber origin, in the Northwestern Jbala, between Tangier and Tetuan. ● [113]

671 4--Most of the existing accounts of the political history of these
177 cities, insofar as it is known, are based on Ibn Khaldun, *Histoire
des Berbères*, translated by Baron MacGuckin de Slane, 4 vols., Paris
175 1925-56. See E. Michaux-Bellaire, *Le Rif*, Paris 1925; Coon, op. cit.,
1931, pp. 22-36; Andrés Sánchez Pérez, "Datos Historicos Sobre Ciudades
113 Rifeñas", *Selección de Conferencias y Trabajos realizados durante el
curso de Interventores*, 1951-52, Tetuan 1952, pp. 29-47, and, for a
synopsis account of Nakur only, Angelo Ghirelli, *Pueblos Arabes y
Pueblos Arabizados*, vol. II--*Pueblos Arabizados*, Madrid: Instituto de
Estudios Africanos, 1957, pp. 142-45. These last accounts have little
175 to add to Ibn Khaldun, although Sánchez Pérez was correctly able to
locate the now entirely buried ruins of the city of Nakur within the
village limits of Aith Bu Qiyadhen, subclan of Aith 'Adhiya within the
clan territory of Aith Bu 'Ayyash in the tribe of Aith Waryaghar, on
the west bank of the Nakur River some 25 km. from Alhucemas. This is
[113] confirmed by a subsequent report of Ahmed el Mekinasi, in *Tamuda*,
Año VII, Semestre II, 1959, pp. 156-8.

The city of Nakur, in fact, has the distinction of housing the first Muslim dynasty (even though on a local level only) in Morocco, as it was founded in 726 A.D. by an Arab from the Yemen, Salih ibn Mansur al-Himyari. Despite being sacked on two separate occasions (once by Norman pirates in 859-60, and again in 929-30 by Musa ibn Abi l-'Afya), Salih's descendants continued to hold, govern and rebuild the city aided and abetted by the Umayyads in Spain, until a complete sacking by the Almoravid sultan Yusuf ibn Tashfint in 1084 ended its career forever. Between this point and the end of the 19th century, the history of the Rif is an almost complete blank, and the chances of any documentary material in Arabic turning up to bridge the gap in any way are remote.

Two points of general interest, however, emerge from ibn Khaldun's
[131] material (which dates from the 14th century and is in turn largely

175 [131] taken verbatim from an 11th century chronicler, al-Bakri): 1) that most of the present Rifian tribes (of which several, including the Bni Waryaghal, Gzinnaya and Marnisa [the last today Arabic-speaking] are mentioned by name) then occupied more or less the same tribal areas, with respect to each other, that they do today; and 2) that vis-a-vis the members of the Salihid dynasty of Nakur, they were the "barbarians at the gates", ready to help pillage the city at a moment's notice when a strong man appeared from outside, and possibly also backsliding from the new religion of Islam. We thus have evidence that the present Rifian tribes have been in the Rif for at least a millenium, and that 172 their reputation as troublemakers goes back to that time! No archaeological excavations, prehistoric, early historic or Islamic, have been made in the region at all, to date.

000 [113) 5--The paper which Blanco refers to is probably L. Milliot, "Nouveaux Qanuns Kabyles" in Hespéris, 1926; these qanuns were written up by the Kabyles in very bad French, and not in Arabic at all!

[114) 6--The Spaniards never had any option of recognizing an "area of custom" in Northern Morocco, because the fact of 'Abd al-Krim's already firm implantation of the Shari'a gave them, in effect, little or no say in the matter. This is a fundamental fact which Blanco continued to overlook.

[196) 7--Raqba, literally "neck" in Arabic, "bloodfeud, vengeance" in Kabyle. The proper term in Rifian is r-'adhawth (from Arabic l-'Adawa), literally "hatred", while aminghi (from Berber ngh, "to kill") is "struggle, fight, battle".

[784] [682) 7a--Market day in the Rif is, in effect, the most sacred day in the week; the market is a place of peace and commercial transaction, and it is harim; to try to carry on a feud in the market, or to kill or wound a person there is haram. The market was, indeed, so much the only place of peace in the Rif that the fine for murder within its limits was 2000 duros, double that for murder on any of the market roads. These fines were paid by murderers and/or their agnates to the imgharen and split up in more or less equal parts among the tribes or segments of tribes who formed the constituents of the market in question. Whenever a real fight started, the market was considered to have been "broken" (yarraz s-suq) for that day. Everyone attending went home at once, but the following week the market was open for business again.

8--Mkhazni: a soldier of the Moroccan government of Makhzin who is a member of a special unit, the Mkhazniya (today, since independence, Makhzin Mobile, or "Forces Auxiliaires"), and has nothing to do with the regular army.

[196) 9--These are both "fighting" words in Rifian: mmis nj-haram, literally "sons of the forbidden", casts grave doubts, in the speaker's mind, about the legitimacy of the ancestry of the person spoken or referred to, while mmis n-dhit, although it might mean "son of the eye" to someone unacquanted with finer shades of meaning in the Rif, means in fact "son of the anus", and as such, it speaks for itself.

000 [128] 10--Blanco does not, in fact, employ the terms "levirate" and "sororate", and here I confess to having taken liberties with the text; but his meaning is abundantly clear. To readers who want refresher definitions, *levirate* refers to the practice of a man marrying the widow of his brother (as Coon has pointed out, in the Rif this is usually a *junior* levirate, meaning that the brother who does the marrying is genereally a *younger* brother), while *sororate* refers to the practice of a man marrying his deceased wife's sister.

[113] 11--This is indeed true, and the only published work thus far specifically dealing with any aspect or aspects of Rifian custom, aside from Blanco's own *La Ley Rifeña*, is José Maria Peniagua, "Notas Sobre el Derecho Consuetudinario de la Propiedad en el Rif", *Archivos del Instituto de Estudios Africanos*, no. 4, Madrid 1948, pp. 7-44 and ditto, *La Prescripción y el Retracto en el Derecho Consuetudinario Rifeño*, Madrid: Instituto de Estudios Africanos, 1950. Paniagua's work, particularly the last-mentioned monograph, deals with problems which seem to be almost entirely constructs of a European legal mind, and have no basis in social reality; and such work cannot be considered serious contributions to the study of Berber jural systems.

12--We cannot identify the work to which Blanco refers here.

13--The only work of Sidi Ahmad ar-Rhuni which we know is the Spanish translation of his *Historia de Tetuan*, Tetuan: Instituto General Franco, 1955, and this contains no allusions whatever, even remote ones, to Rifian custom.

671 428 171 114 562 14--This is not so. Under Shari'a regulations, women receive one-half of what men receive, in inheritance, and this is the case for both movable and real property. Granted, of course, that the point in the Rif is largely theoretical and that women in fact, as Blanco points out, generally get nothing (particularly insofar as real property is concerned), it still seems appropriate to correct this error. In any case, we have never heard of any customary variation of normal Shari'a usage, which would allot to women one-third of movable property; and neither have any of my informants. It is one-half in theory, and, as a rule, nothing in practice.

671 428 171 562 Besides the current practice of a woman's father or brothers appropriating, in effect, her share of the patrimony on her marriage (in order to keep it in family hands and to keep in-laws out), there is a second institution which reinforces the notion that women do not inherit. If a man dies leaving only his widow and a daughter or daughters (no sons), his *r-waratha* (sing. *awrith*) or remaining agnates stand to inherit, which they would not do even if he had only one son. According to Shari'a regulations, the man's widow gets one-eighth, and then, if he has only one daughter, the rest of the property is divided in half, the daughter getting one-half and the *r-waratha* getting the other. If, on the other hand, he has more than one daughter, the rest of the property is divided up into three parts, the daughters getting one and the *r-waratha* getting one. However, even if there is a son or not, certain *r-waratha* (e.g. *mmis n 'azizi*, pl. *dharwa n 'azizi*, father's brother's son), but not others (e.g. *uma*, pl. *aithma*, brother, and

000 26--During the Republik, when the bridal party arrived at the groom's
house, after dismounting his sister from the mule she was riding, the
bride's brother went into the room that she was to share with the
groom and fired a shot in it in order to get rid of any evil magic
which might have been there. This is not done today; and in any event,
[178] as firearms have been forbidden since the days of the Spanish adminis-
[656] tration, people have been throwing firecrackers at weddings for the
last 30 years or more.

[562] 27--In the Rif, women dance for men, never with them.

[535] 28--We do not know just which Bni Hmid is meant, for there are two
tribes of this name: Bni (or Aith) Hmid, in the Sanhaja Srir west of
[114] the Rif, and Bni Hmid s-Surraq ("Bni Hmid the thieves"), in the Jbala,
the second generally being considered to be an offshoot of the first.
As the first falls into the boundary of the old Spanish Territorio del
Rif (now Province of El Hoceima) of which Blanco was administrator,
it is probably the group he means.

29--Not daily, but whenever they feel the need to do so, about once or twice a week.

30--In Berber law as elsewhere, the testimony of witnesses puts the seal on the defendant's guilt.

31--What Blanco probably means by this European legal circumlocution is any case which cannot be decided on the spot.

32--After a man accused of damages to a field or irrigation ditch be-
[685] longing to another person admitted his guilt, the injured party called
in the aquwwam or agricultural expert, who assessed the damage and was
paid one-third of the fine money by the owner of the field or ditch.

33--Quoted in extenso in La Ley Rifeña, op. cit., pp. 21-8. The qanun in question comes from the tribe of Aith Waryaghar, and involves several lineages of Tazurakhth, in the subclan Aith 'Adhiya, clan of Aith Bu 'Ayyash.

34--The original meaning of the word is "announcement, good news". In jural-legal terms, it refers to a small sum of money (rbsharth) given by one man who has lost some article to another to watch out for it.

35--Collective or plural oaths, perhaps more than any other institution, are the touchstone of the Berber judicial process. It is unfortunate that available sources on this crucial subject are so few and far between.
The French, who underwrote Berber customary law with every means at
[648] their disposal, fostered, protected and encouraged the institution of
plural oaths; but after independence in 1956, the new Moroccan adminis-
tration did away with custom and oaths in one fell swoop.
Rifian oaths have not been in existence since the Ripublik. The
[113] only published reference to them, and it is a most inadequate one, is
in Edward Westermarck, Ritual and Belief in Morocco, 2 vols. London:
Macmillan, 1926, vol. I, pp. 513-4.

36--A man accused by a woman of attempted rape had to swear to his innocence, but without cojurors, even during the Republik.

681 the side with the lesser. (This last piece of information comes from
682 some of the lowland clans of the Aith Waryaghar, and the highlanders
[628] of the same tribe deny it.)

000 58--The victim, if he is alive, receives the rqisas, and, if dead, his family gets the ddiyith--if they choose to accept it rather than take up their guns. It is barely possible that in the division of the rhaqq by the imgharen along segmentary lines, the victim's family might receive a tiny fraction of the total, although the chances are strongly against it. The rhaqq almost always goes into the pockets of the imgharen themselves, and when we say that it is divided along segmentary lines, what we mean is that it is the imgharen of each segment and subsegment, rather than the rank-and-file of either, who are the real beneficiaries.

However, this is not really the point, which, in any event, Blanco
[682] has missed entirely. The point is that a murderer pays bloodmoney to his victim's agnates and a fine to the council members (the latter only if the murder has taken place in the market or on a track leading to it).

[114] 59--Blanco is theoretically correct in saying that dharfiqin distribute their share of the fine to the nubath making them up (although in practice this almost never occurs, as the money which filters down, through the normal process of division, goes no further than the lineage heads!); but it is surprising that he does not start at the top levels of segmentation, the clans, as the imgharen themselves did, and work down from there (though even at this level the imgharen tended in practice to pocket the fines).

[114] 60--In this term, el poder ejecutivo, once again, we have a formalistic European notion, which, though certainly accurate in one sense, nonetheless ill befits the essential informality of the tribal council members who convened in the market to discuss the week's happenings and to assess, equally informally, any cases which came to them.

61--It may be stated categorically that such Qur'anically-inspired punishments as putting out a thief's eyes were completely unknown in the Rif and in the rest of Berber Morocco.

[839] 62--Though it is probably of frequent occurrence elsewhere, bestiality
is not common in the Rif, and those who do practice it are always the
[838] object of derision. Furthermore, the Rif is probably one of the few
regions of Morocco where homosexuality is nonexistent.

[113] 63--These notes of Blanco's on hunting are extremely fragmentary; for fuller information on Rifian hunting practices, see the final chapter in La Ley Rifeña on the hunting qanun or qanun r-rayah, as well as a recent summary of the same material in R. P. Esteban Ibáñez, "El Derecho Consuetudinario en la Sociedad Bereber", Institut International de Sociologie, XVIIIe Congrès, Nuremberg, 16-17 September 1958
[114] (mimeographed). Our own impression of Blanco's data on hunting is that although very complete, his description is at the same time unnecessarily complex.

64--In the Jbil of the Aith Waryaghar, hunting may take place on any day of the week.

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last analysis, is with her husband, although the relationship between idhuran (sing. adhuggwar) or in-laws is always conceptualized in terms of mutual help, friendship and obligation, in short, of alliance.

25--What is presumably meant here is that one is never sure if one's allies of yesterday will be one's enemies of tomorrow.

26--Blanco recognizes the shifting character of liffs on lower levels of segmentation and the relative permanence of those on higher levels, and it is certainly true that in one sense the permanent liffs act as checks and balances on those of the lower levels. However, what Blanco [114] does not say is that this cuts both ways; and in a critique of Montagne's ideas on the subject, Andre Adam (La Maison et le Village dans [113] Quelques Tribus de l'Anti-Atlas, Collection Hespéris, XIII, Paris: Larose, 1951, p. 41) raises the question of whether liffs cause war or prevent it, saying in effect that if their function was to prevent it, they hardly succeeded!

27--This point, again, is well taken. Liffs, in theory, do not exist today, and even though the liff structure is largely erased from the minds of Rifians of the younger generation, it could probably be reactivated without difficulty if the need arose, although such reactivation would doubtless take different and more modern forms. Hatreds in [152] the Rif today are latent; but every Rifian is perfectly aware who his [628] friends and who his enemies are, both within his own tribe and outside it.

28--The European concept of "republic", rather than the Rifian Republik, probably is the context which Blanco intended in this case, even though the latter makes far better sense!

29--It is not so much a difference as a shift in emphasis, as the Rifian proverb quoted in note 18 makes so abundantly clear.

619 30--If this statement is at the same time supposed to give any idea of 616 the primary divisions or maximal segmentation of the Aith Waryghar into 114 five khmas, it is highly misleading. From certain of his previous assertions, it seems that Blanco does indeed recognize the difference between a segmentary system and a liff system, but he does not bother to make this difference explicit anywhere. In addition, he faithfully lists the member clans and subclans of Moiety A, but merely refers to Moiety B as "the rest". To clarify the matter further, it should be 619 said that the Aith Waryaghar are segmented into five "fifths", or khams 616 khmās (sing. dhakhammasth; the notion of "five fifths" in addition in- 614 dicates that a tribe is strong), as follows: I) Aith Yusif w 'Ari and Aith 'Ari; II) Aith 'Abd Allah; III) Aith Hadhifa; IV) Aith Bu 'Ayyash, containing the subclans of Aith Bu 'Ayyash "Proper" (as it were) and Aith 'Adhiya (as we shall see Aith Bu 'Ayyash Proper was in the numerically superior liff, as was Aith Yusif w 'Ari, while Aith 'Adhiya and Aith 'Ari were in the smaller liff--thus the first two clans or subclans might be considered onomastically "dominant" and the second two onomastically "recessive", to borrow a term from Mendelian genetics); and V) Imrabdhen. To set the record completely straight regarding references in previous notes, and to attempt to tie up loose ends, the mountain, or Jbil, (sub)clans of Aith Turirth, Timarzga and

616 to a far earlier incidence of tribal unity, and on a much wider scale,
619 than the events precipitated by Bu Hamara's invasion. Blanco's listing,
however, is incomplete, for this feud encompassed not only the Rif,
648 but all of Northern Morocco, centering, supposedly, on the Ghumara and
[114] Sanhaja, each of which had allies both to the west (Jbala) and to the
east (Rif). There are other listings available, the most complete of
which may be found in Montagne, op. cit., 1930, map facing p. 208. See
[113] also Coon, op. cit., 1931, pp. 17-8, and Jesus Ortoneda Jiménez,
Estudio de la Region del Rif, Ceuta, 1930, p. 37, as well as *Vademecum
de Intervenciones Militares*, Melilla 1928. None of these listings is
in complete agreement with any of the others.

000 37--According to Coon, op. cit., 1931, p. 18, the Igzinnayen were not in the Ghumara *liff*, but in the Sanhajan one, and, according to his informants, the fact that the Aith Waryaghar and the Igzinnayen were both on that side brought the Sanhaja the ultimate victory.

38--Until 1906, Bni Gmil and Mistasa formed a single tribe. See Andrés Sánchez Pérez, *Vademecum del Territorio del Rif*, 1946, p. 81.

39--Bni Waryagil is a small tribe in the southern Jbala, and Rifian informants have all disclaimed any connection between it and the very much larger Aith Waryaghar of the Rif. Literate informants, moreover, point to the difference in orthography: the name of the Rifian tribe is written in Arabic with the letter *ghain*, while that of the Jbalan group is written with the *gaf* (*kaf* with three points above it).

40--It does indeed!

[114] 41--Why should it be necessary to "explain its affinities to the European type"? One feels that *liffs*, like any other institutions, can only be "explained" in their own terms!

[696] 42--What Blanco presumably refers to here, in an oblique manner, is, among other things, the fact that murderers must flee their own tribes.

[114] 43--It seems to us that Blanco is looking at this aspect of the problem upside down. If anything, an alliance and war of the Sanhaja-Ghumara type probably had its origins in the Rifian system discussed in note 18, rather than the other way around. It is, of course, also possible that problems and/or notions of this kind cut both ways.

44--This term refers to the western maritime tribes of the Rif, located around the early Islamic center of Badis.

45--There are three basic errors in this sentence. First, the Aith 'Abd
616 Allah had only an *ad hoc liff* arrangement with the Ibuqquyen; this was
619 directed against their own enemies within the Aith Waryaghar, namely,
114 the Aith Yusif w 'Ari and the Aith Hadhifa, the former of whom, in particular, the Ibuqquyen could never forgive for having accompanied Bushta al-Baghdadi's punitive expedition into their tribal territory. There was no question whatsoever of an alliance with either the Aith Yittuft or the Bni Bu Frah. The same applies to the Aith Bu 'Ayyash, who were also (but very tenuously) allied, through the transitive principle, to the Axt Tuzin clan of Axt Tsafth, because their "brothers" and enemies the Aith 'Adhiya were in *liff* (again through the transitive principle)

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[128] 9--Blanco terms this *el pacto interfamiliar*; I use "inter-lineage" in the interests of greater structural accuracy. The pact itself concerns certain lineages of the Aith Waryaghar. And, as we are dealing here with MSS., I employ standard transcription for classical Arabic.

10--This saint, as his name indicates, comes from the subsegment of Aith Zawith n Imrabdhen (Imrabdhen n Waddai), of the clan Imrabdhen.

11--In the conversion from Muslim to Christian dates, we have used
[113] H. G. Cattenoz, *Tables de Concordance des Ères Chrétienne et Hégirienne*, 3rd Ed., Rabat 1961, as the conversions themselves do not occur in the Spanish translation.

In this connecticut also, it is well to point out that all the qanums begin with the phrase "Praise be to God", then get to the matter at hand, and terminate with a statement or statements by the notaries, of whom there are always two, admitting the validity of the testimony of all the witnesses present. If the qanun is signed at the end by the qadi as well, he merely confirms the document by literally putting his seal of approval upon it.

12--More often stated as *Uddji wu r-haqq* or *yarrza r-haqq* ("there is no reason" or "reason is broken"), which also alludes neatly to the fact that when a feud is on, the *rhaqq* fine for murder is not paid to the *imgharen*, who themselves, of course, have picked up their rifles to participate!

13--*Haqq* means "law, reason, right"; and in Rifian it has the additional special meaning of "fine".

14--In Spanish, *Oficina de Asuntos Indigenas*.

15--It is difficult to surmise why judges of Muslim law would be "refractory" in their attitude toward markets, as through them they received their bread and butter; for the Shari'a in the tribal areas of Morocco has always been administered (where it has been applicable)
[114] in tribal markets. It is interesting, however, that Blanco attributes greater control of markets to the Rif in pre-Spanish times than he does after pacification!

16--e.g. among each other and with the provisions of the *qanun* about to be drawn up.

17--Not so much "mechanism" of Rifian law as the mechanics of Rifian jural procedure.

[184] 18--Among the smaller Rifian tribes, there are often tribal clans which lack their own markets; but Blanco's statement holds true for the Aith Waryaghar, which is obviously the tribe he had in mind.

19--The unpublished *Conferencia sobre el Derecho Consuetudinario Rifeño*, which forms Part II of this work.

20--Again, Blanco uses the term *interfamiliar*.

21--The name of this lineage is written *Isaghwen* in Arabic, but in all likelihood it refers to *Izzugwaghen* ("Sons of the red-head"), a branch of the Dharwa nj-Hajj 'Amar of the lineage of Aith Injin, of the Aith 'Aisa (r-Qman?) of Tazurakhth.

000 66--The tomb of Sidi Bu 'Afif is located in Tafrast of the Aith Mhand n Yihya, near Ajdir, in the Aith Yusif w 'Ari. The market right beside it ceased to function after the establishment of the Spanish Protectorate.

[976] [732] 67--This saint, nicknamed Bu Rjila, "possessor of a small foot", because of his lameness, was a direct descendant of Sidi Mhand u Musa of Aith Hishim (Lower Imrabdhen). In his time, Sidi Hmid Bu Rjila, to call him as the Rifians do, was the most important saint among the lowlanders of Aith Waryaghar, and his ability both at adjudication of intra-tribal conflicts and at dispensation of baraka were legendary.

[613] [614] 68--Ajdir, or Aith Ujdir, forms a lineage unit within the subclan of the Aith Ughur Izan of the clan of the Aith Yusif w 'Ari, but not all the names which follow are those of the Aith Ujdir properly speaking.

69--This sum is only one-quarter of the usual amount for murder in the market; and we have unfortunately no explanation of why this should be the case.

70--A value judgment, of course, but not without amusement when taken in context.

71--The jillab is a cloak, formerly of wool but today often of cotton as well, with sleeves and hood, and is par excellence the Moroccan male garment.

72--Sneakers were perhaps commoner in the Rif as male footgear than any other type of shoe, in Spanish times.

[464] 73--What Blanco probably refers to by "forced internment" is that city Arabs have since Spanish times been found in tribal administration posts as white-collar workers, male nurses, etc.

[114] 74--This is hardly the case. Such city dwellers to be found in rural administration posts, in our experience, do their best not to imitate the tribesmen, who today are gradually becoming more urban, or more Westernized, in dress.

75--Blanco actually means aitharba'in rather than agraw in this particular context.

● [113] 76--A concentric theory of community and/or tribal loyalties in Middle Eastern social structure has been elaborated by John Gulick, Social Structure and Culture Change in a Lebanese Village, Viking Fund Publications in Anthropology, New York 1955.

77--Ra'is in Arabic is "headman", from ras, "head".

[792] [113] 78--Mulay Admad al-Raisuli was a sharif from Bni 'Arus in the Jbala whose colorful career in the first quarter of the 20th century ranged from provincial governor to bandit, and whose story is most engagingly told by Rosita Forbes, The Sultan of the Mountains, New York: Holt, 1924. In early 1925, Raisuli was captured by 'Abd al-Krim and died in April of that year in Thamasind, in the heart of the Aith Waryaghar. He is buried in the village cemetery at Thamasind, and his grave, which we have seen, is in no way different from any of the others.

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[175] 129--Al-Mazimma was the port, in the 8th century A.D., for the City of Nakur. Modern Rifians do not confuse it with al-Husaima which, they say, aside from the present city and provincial capital of that name, covered the whole area from Badis in Bni Bu Frah to Ras Sidi Sh'aib in Thimsaman. It should also be noted that *Sidd*, in Arabic, means "dam".

[923] [432] 130--A translation of this document is given in Chapter XVII. It should be noted, in any case, that if a foreigner or anyone whose family does not traditionally irrigate in the area comes to buy land (and to build a house, etc.) in the Lower Ghis region, he has no right to irrigation water until he buys an irrigation turn. He must, furthermore, have a document proving that he bought his turn.

[712] [648] [175] [113] 131--The Jami' al-Mujahidin, or "mosque of the fighters of the faith", where the Aith Waryaghar mounted a permanent and perpetual guard against Spanish invasion, from 1673, when Spain occupied the Isle of al-Husaima, until 1926, when 'Abd al-Krim surrendered. See Andrés Sánchez Pérez, "Datos Historicos sobre Ciudades Rifeñas, *Selección de Conferencias y Trabajos realizados durante el Curso de Interventores* 1951-52, Tetuan 1952, pp. 29-47.

[175] [648] [631] 132--Both these men were of Ajdir, subclan of Aith Ughir Iyizan, clan of Aith Yusif w 'Ari. The Qa'id Sriman r-Khattabi, a lifelong enemy of 'Abd al-Krim who during the Rifian War was pensioned by the Spaniards and in 1926 made *qa'id* of all Aith Waryaghar by them, died in 1936.

133--This statement needs some qualification. The four names under consideration here, although two of them (Ajdir and Ughir Iyizan) certainly correspond to lineage names, are in effect names of irrigation turns, for, on the other hand, Bu Mqathir and Zawith (the latter refers to the area around the Monday Women's Market, at Azghar, and not, as far as we know, to any particular *zawiya*) are both place names, and in both these instances, as indicated in the notation of participants in the Zawith turn, it is the lineages who form local groups in the area under consideration who have right to irrigation water, irrespective of their clan affiliations. In the Zawith turn, again, one of the participating *ijujga* is that of the Andrusen: this lineage, whose name means "Andalusians", has become a member segment of the subclan of Lower Imrabdhen, in the clan of the Imrabdhen; we say "has become" rather than "is", because, as in fact its name shows, it is made up of the descendants of "foreign *shurfa*" rather than of those of local ones. Another participating *jajgu*, the Ihaddallahan, is a lineage branch of the Aith Mis'aud u Yusif of Ajdir, of the subclan of the Aith Ughir Iyizan in the clan of the Aith Yusif w 'Ari; while the Ushshannen are a branch of the Aith 'Aru 'Aisa, also of Ajdir. We have unfortunately been unable to establish the lineage affiliations of the Fisra and Dharwa nd-Hajj 'Abdinnbi; and, like Blanco's, our own notes on irrigation in the Lower Ghis (made in Imzuren in the autumn of 1953) have nothing to say regarding the lineage participating in the Bu Mqathir turn on the fifth day.

However, one point is very clear: that with the rotation over the first four days between Ajdir and Ughir Iyizan, and the additional fact that at least two lineages of Ajdir participate in the Zawith turn,

104 by the Spaniards. If anyone fails to turn up to repair a ditch after
624 a storm, the fine he pays goes not to the aquwwam but to his jma'th,
[686] who buy sugar and tea with it.

000 172--"Subclans" may not be strictly accurate here as a translation, but it is better than Blanco's "fractions". Ajdir is, as aforementioned, a community of the subclan of the Aith Ughir Izan of the Aith Yusif w 'Ari, while the Imhawren are a subclan, in their own right, of the Aith 'Ari. The Imrabdhen are an entire clan, but in this instance only those subclansmen of the Lower Imrabdhen contiguous to the Imhawren and Ajdir were involved.

[613] 173--The references are to the lineage of the Aith 'Aru Hmid, subclan of the Imhawren, clan of the Aith 'Ari.

174--The Sultan of Morocco at this time was Mawlay 'Abd ar-Rahman ibn Hisham (1822-1859).

175--It is impossible for us to infer today even the clans to which the first three men belonged, much less their lineages, because of the antiquity of the qanun (or, in this case, shahada) in question. However, Muhammad al-'Arusi was probably of the Aith 'Arus or a descendant of someone who had escaped from a feud in that mountain subclan, and 'Abdallah b. Ahmad Amhawil must have been of the Imhawren subclan of the Aith 'Ari.

[554] 176--Sriman r-Khattabi of Ajdir, whom the Spaniards made the top qa'id
of all the Aith Waryaghar in 1926. He held this position until 1934-
[648] 35, when, at Blanco's instigation, Waryagharland was divided into three
[631] qaidates of equal size. In 1936 he became Pasha of Villa Sanjurjo (al-Husaima), a position he held until his death in 1950.

[614] 177--Of the clan of the Aith 'Abdallah, but lineage affiliation is unspecified.

178--Both the qadi and the two 'adul can be identified as being of the clan of the Aith Yusif w 'Ari.

179--In Moroccan Arabic, rayah or siyada are the usual terms for "hunt-
[224] ing"; in Rifian, however, the word is dhingmarth, while hunter is
angmar, pl. ingmarn. A very summary description of Rifian hunting
● [113] techniques, as practiced for the most part in the Igzinnayen, and with rifle, net or trap, is in Coon, op. cit., 1931, pp. 37-38; and a summary of Blanco's own data is also contained in R. P. Esteban Ibanez, "El Derecho Consuetudinario en la Sociedad Bereber", Institut International de Sociologie, XVIIIe Congrès, Nuremberg 1958, Sept. 16-17, 1958 (mimeographed).

180--This is not literally true, for like all Moroccan Muslims, Rifians are extremely fond of mutton (or even goat) tajins, or olive-oil based vegetable stews.

181--The distribution of the meat of a dead (or sacrificed) animal is called r-uzi'ath (Ar. l-wuzi'a), and every member of the jma'th is entitled to his share.

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[656] 187--Firearms have been prohibited in the Rif since 1926, and still are at date of writing (1961).

188--In the Jbil of the Aith Waryaghar, a hunting party always consists of at least four or five persons, more often ten to twenty; and it hunts the whole day, away from the village, returning home only at night. The catch, even if only one rabbit, is divided up equally among the hunters, no matter how many; and on the same principle, fines are equally shared by all members of a hunting party. The owner of a ferret (nims, pl. inimsan) which has caught an animal gets the head; and the owner of a trap (dhakhshifth, made of iron and generally reserved for larger animals) into which an animal has fallen has a right to the whole animal, even if someone else should discover it in the trap before the owner arrives. If an animal in flight passes through the land of any person, it still belongs to the hunter no matter who catches or kills it; this, however, presumably does not often happen, for hunting is always done away from the village.

Rabbits and hares are always hunted with sticks, and in snow. [411] Generally, the hunters wait until an animal is up to five meters ahead of them before throwing their sticks, because if a rabbit's face is smashed by a stick, the man who threw it is accused of being a poor hunter by his fellows.

It is customary to pronounce the Muslim invocation "Bismillah [788] r-rahman r-rahim!" ("In the name of God the Merciful, the Compassionate!") before throwing or shooting at an animal or before setting a trap, as this act renders the meat halal, or lawful for human consumption, the same as if its throat had been cut. If an animal is found dead (imwardhas, "dead animal"), it is thrown away.

189--What is presumably meant here are qadi's and other Muslim legal personnel.

190--As the catch is equally divided, so fines are equally shared, among the hunters.

191--The only dogs used for hunting in the Rif are a kind of greyhound or saluki, called in Rifian ushshai, pl. ushshayen. Hunting with greyhounds, however, is not done in the Jbil of the Aith Waryaghar.

192--This proves that hunting is indeed a corporate and cooperative venture, based on a principle of share and share alike.

193--In other words, it is the presence or absence of a circle around the burrow which denotes ownership and which is in fact the most visual and reliable proof of same.

194--And in the Jbil of the Aith Waryaghar as well.

195--Blanco and R. P. Esteban Ibáñez, O.F.M., Diccionario Español-[113] Rifeño, Madrid 1944, p. 355, both give as the term for "partridge net" thinigmarth, pl. thinigmar (which also means "hunting"); and Ibáñez lists this as the term in use both in Ibuqquyen and in Iqar'ayen. In the Jbil of Aith Waryaghar, however, a partridge net is termed dhabhyuth.

132 mean would be somewhat higher in the highlands, the range of
[243] variation would be as great. Since the economic backbone of the area is the dry farming of cereals, low rainfall or drought causes serious difficulties.

175 The history of the Rif presents us with the strange paradox that it is better documented for the eleventh and twelfth centuries than for the nineteenth. We have several written chronicles of the Arab city states established along the Mediterranean, such as Nekor which drops out of history in the eleventh century, and Bades which was captured by the Spanish in the sixteenth century. Of the Berbers in the hinterland we have
● [113] little material with the exception of el-Badisi's Lives of the Saints of the Rif (French translation by Colin, 1926) dated 1311, and el-Bekri's Description de l'Afrique septentrionale from the
[131] eleventh century. El-Bekri notes that already in that time most of the present tribes of the Rif were located in their present sites (Michaux-Bellaire, 1925: 180-181). Between these accounts,
[648] fragmentary at best, and the uncritical chronicles of Spaniards leading punitive expeditions in the late nineteenth and early twentieth centuries, Riffian history is rather blank.

175
648 Geographical circumstances made the Central Rif peripheral to most events going on in Morocco. Only with the insistence of the Spanish government did the Moroccan Sultan send an expedition into the Rif in the late nineteenth century to punish the Ibuqquyen for piracy. During the early years of the present

6: Joseph E-5 (1965-1966) 1975 MX3 Rif MX3

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R S 182 few notes here will suffice to illustrate the range of difference. The Sanhajans are
masters of terracing and irrigation, but in horticultural skill they yield to the
[241] Rifians, who are noted also for honey and grapes. The Ulad Stut, thanks to
[234] their bedawin origin, are expert in the preparation of milk products. The
R S Ghmarans are northern Morocco's best fishermen, but their skill is limited to the
182 use of skiffs and seines. The Sanhajans are most interested in freshwater fishing,
226 and they may also be the b[illegible] hunters in the northern zone. These points will be
[224] elaborated in chapter vi.

Cultural Uniformity and Diversity

R In order to place northern Morocco in proper perspective, we must consider two
184 classes of culture traits: those that are ubiquitous and those that are limited to
171 certain parts of this zone. For example, the Rifian is in many respects quite different
from the Ghmaran or Jbalan. He speaks a different language, has different
ideas of honor and shame, wears his turban differently, and builds a different
type of house. Yet as Moroccans the Rifians, Ghmarans, and Jbalans share ideas
and objects that are rare or unknown in other parts of the Muslim world.

R All Moroccans, at least in theory, are good Muslims. Islam does not confine
771 itself to ideas and their influence on the spirit of man: it is a religion of force
182 and authority, a system of law, and a basis of government. The influence of
[771) Islam is evident in institutions and patterns of behavior that affect the form and
function of every village and farmstead. To say that Moroccans are Muslims
is to assert that they share ideas and institutions common to the entire Muslim
world. Yet it is also true that Islam in Morocco has many unusual features. It
is a common saying that Berber culture constitutes the foundation of the Moroccan
house, while Arab customs and religion are only the whitewash on the
walls.[3]

R A distinguishing feature of Moroccan Islam is the elaborate development of
779 brotherhoods and the cult of saints. These heterodox developments seem in part
795 to reflect pre-Islamic beliefs. The Berber tribesman, though he may be ignorant
of Arabic, yields to no one in the belief that he is pious and correct. He prays,
R keeps the fast of Ramadan, and honors those of his tribe who have made the
[776] pilgrimage to Mecca. In this sense he is like all Muslims, but, as Hart aptly
remarks, he retains local saints to comfort him and local jinns to plague and
R torment him.[4] One aspect of these beliefs is the superstition that relates to the
[778] sanctity of cemeteries and shrines. In chapter vii it will be shown that there
[128] is often a marked contrast between the plant cover of sacred land and that of
profane land.

R Berber kinship terminology, like that of the Arabs, is a bifurcate collateral
601 type.[5] The terms for mother's brother and for father's brother are different, as
R are the terms for mother's sister and for father's sister. The inheritance of property
428 follows the standard Maliki practice, which allots a share to each son equal
to that falling to two daughters. Descent is patrilineal, and the number of pa-

000

R [113] [3] D. M. Hart, "Morocco's Saints and Jinns," *Tomorrow*, 7 (1959), 45–54.

[4] *Ibid*, p. 46.

R [113] [5] D. M. Hart, *Morocco: Subcontractor's Monograph* (New Haven: Human Relations Area Files, 1956), pp. 136a–140.

611 Descent is patrilineal, and the number of paternal relatives a Moroccan can remember is always greater than the number on the mother's side.[6]

The important details of social stratification show little variation within the
565 northern zone. Real or alleged descendants of the Prophet constitute the highest
184 class. Among tribesmen, the most respected and important class is composed
of gentlemen farmers. At the bottom of the scale are blacksmiths, market weighers
and criers, musicians and dancers, and tinkers or other itinerant artisans. The
Jews, regardless of their profession, are lowest in the scale.

621 Besides these aspects of religion and social organization, there are many
features of settlement and livelihood that show little variation within the northern
184 zone. The basic unit of settlement is the hamlet or farmstead. Settlements
of more than a few hundred inhabitants are rare. For every farmer who grows
241 cash crops there are at least a hundred others who are concerned only with their
433 own or community needs. In all Morocco, subsistence farming and barter govern
[437] rural economy, and trading takes place at weekly markets held in the open air.

[443] One of the clearest expressions of cultural diversity is the division of northern
Morocco into zones of Arabic and Berber speech, a division which coincides
with other cultural frontiers. Generally speaking, the eastern half of the area
(Rif, Garet, Gal'aya) retains Berber speech, whereas the western half (Jbala,
Ghmara) has been Arabized. The historical and cultural factors that have brought
about this division will be considered in chapter iii.

175 A state, by minimum definition, is an extent of inhabited territory presided
over by a government capable of asserting its authority. During most of its his-
631 tory, Morocco was hardly a state in this sense of the word. One of the important
648 themes of Moroccan history is the division of the country into lands of government (*bilad al-makhzen*) and lands of dissidence (*bilad as-siba*). The belligerence
of the free tribes was based not only on their hatred of taxes[7] and authoritarian
order but also on their inability to conceive of any social or political unit larger
than the tribe or confederation of tribes. Most of the Rif was part of the land
of dissidence.[8] Jbala and Ghmara formed an intermediate zone, neither submissive
nor openly rebellious in the face of domination from without. The plains of Wad
Lukkus and the Gharb were easier to subdue.

Dissidence was expressed in intertribal and intratribal conflict as well as in
619 opposition to the central government. In most of the Rif, and especially in Aith
628 Wariyaghar, quarrels over ownership of land, water rights, and personal affronts
[648] led to blood feuds of extraordinary savagery. Some feuds did not end until one
[571] of the participating families was exterminated. Feuding and the necessity for
[616] defense gave rise to a complex system of alliances based in part upon moieties.
[712] In the days before the Spanish occupation, each house in Aith Wariyaghar had

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[6] In popular writings Berber society is sometimes described as being influenced by matriarchy. This assumption is based upon the fact that Berber women are much more active and unabashed
(113) than the Arabized women of the towns; it is based also upon the tradition that the Garmantians were led by a queen or prophetess. E. F. Gautier, "The Monument of Tin Hanan in the Ahaggar," *Geog. Rev.*, 24 (1934), 439–443.

[7] *Makhzen* comes from the verb *khazana*, "to lock up" or "to hoard." The word is synonymous
[113] with "government" and more especially with the treasury department. E. Michaux-Bellaire, "Makhzen," *Encyclopedia of Islam* (Leiden: E. J. Brill, 1913–1938).

[113] [8] Nevill Barbour, ed., *A Survey of North West Africa (the Maghrib)* (London and New York: Oxford University Press, 1959), pp. 380–381.

and Aith Wariyaghar, and the wheel-made pottery in Ibuqquyen, Aith Tuzin, R 415
and Thimsaman. Basketry is made by coiling, twilling, and wickerwork. In the 184
manufacture of woolen textiles two types of loom are employed: in most of the 286
northern zone an upright two-bar loom with stick heddle is used; another type of 184
loom is a horizontal mechanism, with looped wire heddles, operated by a treadle. 171
In Garet, long braids of alfa grass are tied to stakes to form a crude loom for weaving textiles. R

Differences in types of houses and in settlement patterns provide further evi- 342
dence of cultural diversity. Jbala, Gharma, and Sanhaja as-Srair represent one 184
tradition, while the Rif, Garet, and Gal'aya represent another. The sharp divi- 171
sion between sloping roofs in the western half of the zone and flat roofs in the area east of Targist (see chap. v) coincides with the difference in settlement pattern between the hamlets of the west and the scattered farmsteads of the east. R

In Morocco, as in most of the Muslim world, it is easy to distinguish between 291
the clothing of townspeople and that of rural folk. The sophisticated townsman 369
(fig. 3, *d*), with gabardine suit, European shoes, fez, and dark glasses is never mistaken for a man of the country (*bilad*). Urban and rural differences in women's dress are even more pronounced. The shrouded figures seen in the cities (fig. 3, *h*, *i*) contrast sharply with the unabashed women of the countryside.[13] Men and women of the bilad are promptly identified when they enter a town. R
From which bilad do they come? A generation ago, before the adoption of cotton [178]
cloth and other imported fabrics, this question was easy to answer. Garments were then made entirely of wool, locally sheared, spun, and woven, and each costume betrayed a provincial style. Today this distinction is not always clear; yet it is still possible to learn much about where a man comes from by the length and cut of his clothing, the way he ties his turban, and the nature of his footgear. Women's dress is even more explicit. R

The basic garment of most tribesmen is a hooded cloak (*jillaba*). We can be 291
sure that this garment was worn in the sixteenth century, for Leo Africanus 175
describes Moroccans as being "clad in certain woolen cloaks or mantles, such as are used in Italy." "These mantles," he adds, "have certain hoods, which cover J
their heads and visages, so that you can scarce discern them to be men."[14] In Jbala R
and Ghmara, cloaks are knee-length, and there is no transition from hood to sleeves. 291
The front of the Jbalan cloak usually has tufting or some other decoration. A
generation ago this type of garment was worn in the Rif also, but today most [178]
Rifians wear a longer cloak, reaching halfway between knee and ankle. Rifian cloaks are no longer decorated, and most of them have definite shoulders (fig. 3, *a*). R
Throughout northern Morocco, brown is the preferred color for cloaks, but gentle- 291
men of distinction occasionally wear white (fig. 3, *b*). One sometimes sees a gray 822
or blue cotton jillaba and even a few of striped pattern, but such apparel is worn 171
only by tribesmen who are more or less urbanized. [369]

Cotton turbans (*rezza*) are the characteristic headgear. In the Rif, turbans R 291
are worn straight, two fingers above the eyebrows, and are always white. This 171

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[13] Ernst Rackow, *El traje musulmán femenino en Africa del Norte* (Madrid: Instituto de Estudios Africanos, 1953); and *Beiträge zur Kenntnis der materiellen Kultur Nordwest-Marokkos: Wohnraum, Hausrat, Kostüm* (Wiesbaden: Otto Harrassowitz, 1958). R [113]

[14] Leo Africanus, *The History and Description of Africa* (London: Hakluyt Society, 1896), II, 526. First edition, Venice, 1550.

CHAPTER II

ENVIRONMENT

133 MOST of northern Morocco is mountainous. The dominant surface feature is the Rif mountain chain, which curves in a great arc from the Strait of Gibraltar to the hills of Aith Said.[1] The main artery of east-west traffic in Morocco is the Taza corridor, south of the Rif chain (fig. 1).A The important north-south routes run along the Atlantic coast or follow the valley of Wad Moulouya. Innumerable ridges lead to the Mediterranean, but that coast has few beaches and little shelter. The exposed and straight Atlantic coast is even more hostile to maritime life. Enclosed within the bounds of a rugged mountain range and inhospitable coasts, most of northern Morocco is isolated. The narrow valleys and ridges of the Rif chain "form a secluded mountain region, difficult of access, which at all times enabled its Berber inhabitants to keep their necks free of foreign yoke."[2]

THE RIF CHAIN

The Rif chain consists of a series of arcs, pierced by gorges trending at right angles to the main structural lines (fig. 4).B The northern versants of these arcs have undergone extreme dissection. Streams fed by heavy rainfall have cut deep canyons, and most interfluves are narrow, knifelike ridges. The overlapping folds of this chain are similar to those of the alpine mountains in Europe, notably the Sierra Nevada, with which the Rif was joined in early Tertiary time.[3]

Geologists divide the Rif into three zones (fig. 5):C

1. A zone of metamorphic rocks, mainly of Paleozoic age, flanks the coast from Ceuta to Puerto Capaz. This zone constitutes the southern flank of the Betico-Rifian massif, which was broken into two segments when the Strait of Gibraltar was formed. Although countless navigators have viewed this coast, it is scientifically one of the least-known segments of the Mediterranean littoral.

2. A zone of calcareous rocks is mostly of Tertiary age. Its terminal point is Jbil Musa, one of the Pillars of Hercules. From Jbil Musa a high wall of limestone runs southeastward to Shawen, curves to the sea, and then reappears as the Karstic highland of Ibuqquyen. Several peaks exceed 1,000 meters in elevation, and Jbil Tisuka and Jbil Leshab are slightly more than 2,000 meters high. The structural break at Tetuán is the only gap in the wall. The gorge cut by the antecedent Wad Lao is too narrow to be used as a trade route. Most of this range is a formidable barrier.

3. A broad zone of younger sedimentary rocks is schistose for the most part, but includes some strata of sandstone. The formation name "Flysch" has been

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[1] "Rif" is used here in the popular sense to refer to the mountainous area of northern Morocco. In Maghribi Arabic *er-rif* means a fertile or cultivated zone on the banks of a river, along a coast, or on the edge of a desert. It can be translated also as "margin" or "fringe."

[2] Theobald Fischer, "Marokko: eine länderkundliche Skizze," *Geog. Zeitschr.*, 9 (1903), 67.

[113] [3] The best geological map of northern Morocco is the *Bosquejo geológico de la zona del protectorado español* (Madrid: Comisión de Estudios Geológicos, 1952). Brief accounts of the physical geography of the area appear in "Maroc septentrional," *Livret-guide des excursions A 31 et C 31, Congrès Géologique International* (Rabat, 1952); Horst Mensching, *Marokko: die Landschaften im Maghreb* (Heidelberg: Keyersche Verlagsbuchhandlung, 1957), pp. 148-154; and G. Maurer, "Les pays rifains et prérifains," *L'Information Géographique*, 23 (1959), 164-171.

A, B, C. [See pp. 1, 14-15 respectively--Analyst] applied to this zone, which includes northern Morocco's highest mountains and principal watershed.[illegible] Adrar[illegible] Tidighin, highest of the Sanhajan mountains, rises to 2,456 meters and is snow-capped during six months of the year (plate 1, *b*). 133

MARGINS OF THE RIF CHAIN

From Bab Taza northward the karstic mountains of Bani Hassan form the principal arc of the Rif chain. West of this range the highland complex consists of a series of outliers trending northwest to southeast. Several of these ridges are more than 1,000 meters in elevation, and the highest peaks, Jbil Sugna and Jbil Buhashim, exceed 1,500 meters. A line drawn from Tangier to a point about 30 kilometers east of Ksar al-Kebir marks the division between the Rif highlands and the hills and terraces of the Atlantic littoral.[illegible]

The eastern margin of the Rif highlands is difficult to delimit. The main arc extends to a point about halfway between Alhucemas and Melilla. Mountainous terrain is found farther to the east, but its structure and lithology are different. The Rif chain is composed almost entirely of sedimentary and metamorphic rocks. Volcanism is evident from the eastern edge of the Nkour Valley to the Algerian frontier. The largest volcanic feature is Adrar Gurugú (886 meters), a composite cone of basalt and andesite behind Melilla. A number of smaller cones dot the plains of Garet and Gal'aya, and the promontories at the bay of Alhucemas and the Melilla peninsula are formed of trachyte and andesite. A large part of Gal'aya and Garet was submerged in Tertiary time. This lowland area includes the flattish plains of recent alluvium extending inland from Nador, and hill sections formed by recent stream dissection of Tertiary and Pleistocene sediments. The small range of Ikibdhanen appears to be an anticline. This range and the Kar-Kar highland were formed prior to the period of Rifian orogeny.

THE THREE COASTS

Most of northern Morocco is isolated by the Rif mountains and the inhospitable Mediterranean coast. The Atlantic façade, even more hostile to maritime life, has been the country's best rampart. Since these two shores are of little value, the coast facing Gibraltar has played a preponderant role.

Straight and shelterless, the Atlantic façade is indented only by mediocre harbors and poor estuaries. [504] A series of marine terraces, mostly of Pliocene or Miocene age, dominates the littoral from Arcila to Larache. Quaternary dunes line the coast from Larache to and beyond the old interzonal frontier. [134] The plain of Wad Lukkus is the largest zone of alluvial soil on the Atlantic coast and the only area in northern Morocco where agriculture is almost entirely mechanized. The small coastal plain on the frontier between the former Spanish and international zones is poorly drained and swampy most of the year.

Cliffs of Cretaceous or Eocene sandstone line the Strait of Gibraltar from Cape

[TEXT CONTINUED ON PAGE 17]

[illegible] The best description of this area appears in the log of the excursion sponsored by the Société de Géographie du Maroc in March, 1957; see *Notes Marocaines*, 9–10 (1957), 43–45. [113]

[illegible] I use the Berber *adrar* rather than the Moroccan Arabic *jbil* because this peak is in an area of Berber speech.

[illegible] I am omitting the pre-Rifian foothill zone, immediately south of the area shown on the maps. For a description of that zone see Maurer, *op. cit.*, and Jean Dresch, *Essai sur l'évolution du relief dans la région prérifaine* (Paris: Larose, 1933). [113]

133 133 125 Spartel as far as the western flank of Jbil Musa. Today this coast commands one of the world's great trade routes. For the Ancients the Pillars of Hercules marked the end of the known world, the very limits of civilization. In medieval time the Arabs rarely ventured into the Atlantic, and in the great age of exploration the Occidental Muslims limited their activity to piracy. For Morocco this coast has been a bond with Spain. By this almost terrestrial function the Strait of Gibraltar assumed a decisive role in Moroccan history. It was to guard the southern flank of Betica that Emperor Claudius created the province of Mauritania Tingitana in A.D. 46. The proximity of the two shores allowed Islam to conquer the Iberian peninsula, and the Spanish, in turn, to extend their influence to the Moroccan coast.

133 [504] [487] [491] On the Mediterranean coast Morocco faces the great highway of civilization, but that shore, almost completely devoid of shelter, has never had an important maritime activity. A few fishing boats operate on calm days, but their sole function is to carry nets and seines a short distance beyond the surf. No road or trail of any significance follows this coast. Immediately east of the delta of Río Martín (Wad Martil) the coastline consists of a series of high cliffs cut by deep barrancas (pl. 1, *a*). This pattern, except for the small coastal plain formed by the deltas of Wad Ghis and Wad Nkour, continues as far as Melilla.

CLIMATE

132 [243] [312] The climate of northern Morocco is of the Mediterranean type. In its simplest form this type of climate is characterized by (1) concentration of precipitation in winter and spring, the summers being nearly or completely dry; (2) warm to hot summers and mild winters; and (3) a high percentage of the possible sunshine for the year. From the Atlantic coast eastward to about 4° west longitude, irrigation is unnecessary for cereal crops. Within this zone the average annual precipitation ranges from 400 mm. to more than 1,000 mm. The extent of this range reflects the extreme contrasts of exposure and elevation. The drier zone, with precipitation totals of 400 mm. or less, begins on the eastern edge of the Rif chain.

[127] Figure 6 was compiled from published records of forty-five weather stations for the decade 1946–1955. The former date is the earliest that can be used if conditions in the entire zone are to be compared. The records of a few stations extend to earlier years, and the Catholic Mission in Tangier has recorded weather observations since 1912. But data have become available for the interior of the zone only since the end of the Second World War.[7]

Precipitation decreases from north to south on the Atlantic coast, and from west to east on the Mediterranean coast. Tangier, with 810 mm. (31.9 in.), is the wettest coastal station in the zone. At Arcila, only 40 km. to the south, the total is 611 mm. (24 in.). On the Mediterranean coast, Ceuta with 560 mm. (22 in.) contrasts with Wad Lao with 460 mm. (18.1 in.), Puerto Capaz with 330 mm.

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[113] [7] For observations recorded prior to 1944, see *Resumen de las observaciones meteorológicas efectuadas en la zona de Marruecos hasta 1944* (Tetuán: Imprenta del Majzen, 1946). The years 1944–1946 are covered in a supplement published in 1947. Since the latter date, weather records have been published monthly in the *Boletín Mensual Climatológico del Servicio Meteorológico en Marruecos* (Tetuán: Imprenta del Majzen). For data on precipitation elsewhere in Morocco see *Atlas du Maroc*, Planche 4 *a*, "Précipitations annuelles" (Rabat: Comité de Géographie du Maroc, 1958), and the "Notice explicative" that accompanies the map.

DRAINAGE

132 133 Drainage basins are small in this area, for the watershed is close to the sea. The seasonal rate of flow follows the seasonal rainfall, but with a lag in time that varies with the slope, the vegetation, and the permeability of the rock. Spate follows rainfall where impermeable rocks form the basin, more slowly where the basin is of permeable limestone. All the Mediterranean streams may be roaring torrents at some period from October to May; but most of them dry up during the long summer drought. The valleys of some of the larger streams, like the Ghis and Nkour, betray their Mediterranean regimen by a double bed: in summer a narrow channel is cut below the broad rocky shelf which is the winter bed. Wad Ouergha draws off most of the drainage from the Sanhajan highlands; it is the largest stream flowing from the Rif chain, and one of the sources of irrigation water in the Gharb coastal plain (fig. 1). The basin of Wad Lukkus includes most of the Atlantic drainage. Surface streams are rare in the calcareous zone. The only stream that flows through the limestone mountains is the Wad Lao, which follows an antecedent course; but Wad Hajara, Wad Khemis, and Río Martín (Wad Martil) are fed by springs issuing from the base of this range. The area between Wad Nkour and Wad Moulouya has only one large stream, Wad Kert, and it receives little nourishment after it leaves the highlands. Wad Moulouya, from the distant Ayache Mountains of the High Atlas, is northern Morocco's great exotic stream. This stream and Wad Lukkus constituted the only natural segments of the boundary between French Morocco and Spanish Morocco.

PLANT DOMAINS

137 The vegetation of North Africa can be divided into (1) a Mediterranean domain, where forest and shrubs predominate; (2) a domain of "steppe," where forest is confined to highland enclaves in the midst of a predominant cover of grass and herbs; and (3) a domain of highland vegetation, which includes a subalpine formation with some trees and, only in the Moroccan Atlas, an alpine formation [132] without trees. Saharan vegetation penetrates Barbary at only two points: in the Hodna basin of Algeria and on the plains extending inland from the Gulf of Gabès in Tunisia. Figuig, Ksar as-Suq, Zagora, and Goulimine, all within the political limits of Morocco, receive less than 200 mm. of precipitation per year, but the records of these stations do not show the variability indicative of true desert. The Moroccan territory south of the Atlas chains forms part of the "pre-Sahara" of French terminology.[8]

In terms of this classification, all but a small part of northern Morocco falls within the Mediterranean domain. No peak in the Rif Mountains rises above timberline, and only a small area can be called subalpine. Grassland is confined to one area on the eastern edge of the zone. This area, in the lower Moulouya Valley, is one of the driest parts of northern Morocco, but it is not certain that the presence of steppe vegetation can be attributed solely to meager precipitation. The dominant species is *Stipa tenacissima* (Arabic *alfa*). This hard tussock grass

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[113] [8] For a brief description of vegetation in all North Africa, see Jean Despois, *L'Afrique du Nord* (Paris: Presses Universitaires de France, 1949), pp. 80–96; and Louis Emberger, "L'Afrique du Nord-Ouest," *Unesco Arid Zone Research*, VI, "Plant Ecology" (Reviews of Research) (Paris, 1955), pp. 219–249.

137 has deep roots, forms strong clumps, and its awns stick to the coats of passing animals. More important, it is palatable only for a brief period in spring.[*] Alfa grass is scattered over most of Garet, but is conspicuous only in the area between the hills of Ikbdhanen and Kar-Kar.

FOREST, MAQUI, GARRIGUE

137 132 The climate that has prevailed during historic time is such that trees ought to dominate the vegetation of this zone. As figure 7 indicates, *Pistacia atlantica,*

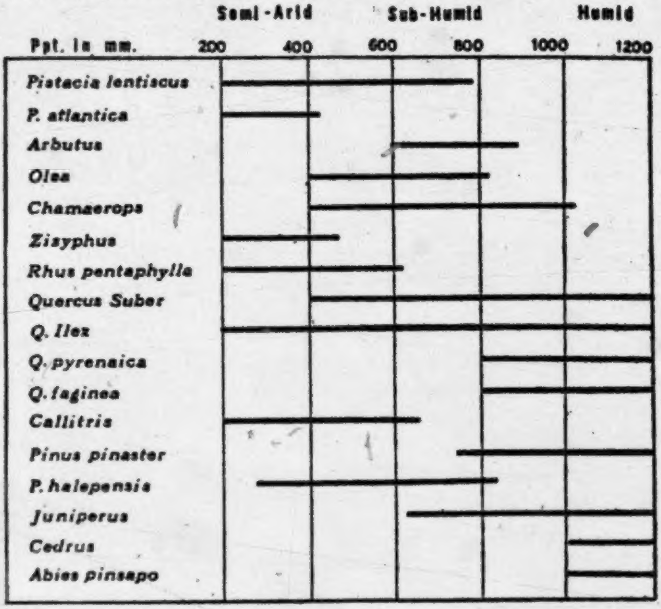

Fig. 7. Range of forest species according to average annual precipitation.

137 *P. lentiscus, Quercus Ilex, Pinus halepensis, Callitris articulata, Rhus pentaphylla,* and *Zizyphus lotus* can grow in the semiarid sector of northeastern Morocco. The altitudinal range of at least three and possibly eight trees extends above the highest peaks of the Rif chain (table 1). Edaphic factors impose some limitations. The cork oak will not grow on calcareous soils, and most forest species are excluded from poorly drained alluvium. Nevertheless, areas that are barren of trees as a result of natural causes constitute only a small part of this zone.

Most of the forest species common in northern Morocco are endemic to the Mediterranean region; a few belong more specifically to the western province of that region. *Quercus coccifera, Quercus Ilex, Pinus halepensis, Arbutus Unedo,* and a number of prominent Moroccan shrubs are spontaneous in most of the

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[113] [*] Charles Killian, "Plantes fourragères-types des hautes-plaines algériennes," *Annales de l'Amélioration des Plantes,* 4 (1954), 505–527.

137 Mediterranean lands. The natural range of *Pinus pinaster, Chamaerops humilis,* and *Quercus Suber* extends to Sicily and the western versant of Italy, but not to Greece, Turkey, or Lebanon.[20] As typical elements of Mediterranean vegetation, these plants are provided with mechanisms of defense against excessive transpiration during the long summer drought. The trunks of most trees are incased in a thick, deeply fissured bark; leaves are thick and leathery, and have hard, shiny surfaces. Under normal conditions few of the Moroccan trees cast deep shade; so the understory is usually well developed.

This shrubby undergrowth of bushes and small trees may form a dense thicket, but is more often degraded by burning, cutting, or browsing. There are many names for it: in Greek *longos,* in Spanish *monte bajo* or *matorral,* in Italian *macchia,* while we have adopted the Corsican—and French—*maqui(s).* It is a mixed association of evergreen plants, with tough and twisted wood, brilliant and often scented flowers, and shiny or glaucous foliage. Where degradation has been severe, the maqui ceases to form a closed canopy. This type of rather stunted and open vegetation, known in France as *garrigue*—from *garoulia,* the Provençal name for *Quercus coccifera*—is marked by a wealth of aromatic Labiatae, Cistaceae, and Rutaceae, which sprout and germinate quickly after fires. All these plants, whether maqui or garrigue, are heliophilous and many of them are thorny. In chapter vii it will be demonstrated that garrigue constitutes a degraded form of maqui, and maqui a degraded type of forest.

TABLE 1

ALTITUDINAL LIMITS OF SOME MOROCCAN TREES

Species	Elevation (meters)	Location
Rhus pentaphylla	1,000?	Rif?
Ziryphus lotus	1,000?	Middle Atlas?
Pistacia lentiscus	1,600	High Atlas
Olea europaea	1,650	High Atlas
Callitris articulata	1,800	High Atlas
Arbutus Unedo	1,900	Anti Atlas
Pistacia atlantica	2,000	High Atlas
Quercus Suber	2,000	Rif
Quercus pyrenaica	2,000	Rif
Quercus faginea	2,200	Middle Atlas
Chamaerops humilis	2,200	High Atlas
Pinus halepensis	2,200	High Atlas
Pinus pinaster	2,200	Rif
Abies pinsapo	2,200	Rif
Cedrus atlantica	2,700	High Atlas
Quercus Ilex	2,800	High Atlas
Juniperus Oxycedrus	3,150	High Atlas

SOURCE: Personal observations and Louis Emberger, *Les Arbres du Maroc et comment les reconnaître* (Paris: Larose, 1938).

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[113] [20] M. Rikli, *Das Pflanzenkleid der Mittelmeerländer* (Bern: Hans Huber, 1943–1948), traces the natural range of most of the plants considered here. See also the "Notice explicative" accompanying Planche 19 *a,* "Forêts et ressources végétales," *Atlas du Maroc,* cited in note 7.

RELICT SPECIES

137 The vegetation of northern Morocco has not only been modified by man, but has also undergone progressive natural change. In the varied Moroccan flora, European, Asiatic, and tropical elements are found along with species endemic to the Mediterranean region. During the Pleistocene, the southward movement of a colder and wetter climate brought corresponding southward migrations of European and Euro-Siberian plants. Europe and Barbary were no longer linked by land bridges, but seeds could easily blow or float across the narrow Strait of Gibraltar. Relicts of these invasions are found today in the mountains of northern Morocco in growths of fir (*Abies pinsapo, A. tazaotana*) and deciduous oaks (*Quercus pyrenaica, Q. faginea*) that seem strangely out of place in northern Africa.[11] Other Pleistocene relicts include birch (*Betula alba*), two species of maple (*Acer monspessulanum, A. Opalus*), alder (*Alnus glutinosa*), and the mountain ash, or service tree (*Sorbus torminalis*).[12]

ENIGMA OF THE OLEASTER

The olive tree (*Olea europaea*) has long been regarded as a symbol of the Mediterranean landscape. Since classical antiquity it has been recognized that not all olive trees are alike, that some grow without cultivation and produce small and bitter fruit. The "wild" olive, or oleaster, was long thought to be an endemic element of the Mediterranean flora and the ancestor of the cultivated tree. Victor [114] Hehn may have been the first to challenge this view on historical and philological grounds.[13] Today this problem is the subject of vigorous debate. Most authorities consider the oleaster to be a natural element of maqui, but some scholars, including August Chevalier, describe it as a "subspontaneous race," escaped from cultivation in ancient time.[14]

[245] In contrast to the common cultivated olive, the oleaster has four-angled thorny branches, broader leaves, and smaller fruit. Moreover, the oleaster, obviously, grows without cultivation or apparent care. None of these points proves that it is an ancestral wild race. As De Candolle remarks, "In a woody species which lives so long and shoots again from the same stock when cut off by accident, it is impossible to know the origin of the individuals observed."[15] To make matters worse, [245] it is a common practice in northern Morocco to graft scions of the cultivated olive to oleaster stock.[16]

The oleaster is best developed in the area covered by palmetto scrub, where the winters are too cold and wet for the cultivated race, but a few oleasters are seen

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● 113 137 [11] Changes of climate also have been invoked to explain the presence of wild olive (*Olea Laperrini*) and cypress (*Cupressus Dupresiana*) in the mountains of the central Sahara. L. Lavauden, "Les Forêts du Sahara," *Rev. des Eaux et Forêts*, 65 (1927), 265–277.

[12] The adaptation of "Nordic" species to the Mediterranean environment is considered by Andrea Giacobbe in "Les effets écologiques de l'aridité du climat sur la végétation méditerranéenne: héliophilie et configuration morphologique des forêts," *Unesco Arid Zone Research*, V, "Plant Ecology" (Proceedings of the Montpellier Symposium) (Paris, 1955), pp. 64–66.

[13] Victor Hehn, *The Wanderings of Plants and Animals from Their First Home* (London: Swan Sonnenschein, 1888), pp. 88–101.

[14] Aug. Chevalier, "L'origine de l'olivier cultivé et ses variations," *Revue de Botanique Appliquée et d'Agriculture Tropicale*, 28 (1948), 1–25.

[15] Alphonse de Candolle, *Origin of Cultivated Plants* (New York: Appleton, 1885), p. 280.

[16] Pliny (*Natural History*, XVII, 30) thought that this practice was limited to Africa.

in the semiarid region south of Melilla. Both varieties sprout vigorously, and 137 both are polymorphic. The latter fact is of major significance, for if the oleaster were a wild species it should be monomorphic, at least in a given area. Chevalier's argument is based upon this point. The seemingly primitive oleasters may be escaped and neglected variants of races that were once cultivated.[27] The longevity of the olive is lengendary; some sprouts in Algeria and Tunisia are almost certainly derived from Roman trees.[28] The fact that some trees have spines and small fruit may not be distinctive. Both varieties probably evolved from *Olea chrysophylla,* the true wild olive of southwestern Asia.[29] The oleaster may be no more difficult to explain than the "wild" pears and apples in the forests of France. It is not unusual for a neglected cultivated plant to become naturalized. Subspontaneous varieties of the cultivated carob tree (*Ceratonia siliqua*) are common in the Mediterranean region. In northern Morocco this tree, cultivated for its edible pods, is widely scattered in the area covered by palmetto scrub. Like the oleaster, it often appears to be a natural element of the maqui.

SHRUB FORMATIONS

In most of the Mediterranean basin, shrub formations now cover much more territory than do forests (fig. 8). In northern Morocco, shrub vegetation is dominated by dwarf palm or palmetto (*Chamaerops humilis*) and the xerophytic camel thorn (*Zizyphus lotus*). The range of these two species delimits two shrub formations, palmetto scrub and thorn scrub. The first formation is the *Oleo-Lentiscetum* (i.e., *Olea europaea—Pistacia lentiscus*) of most authors, but in northern Morocco neither of these plants is as conspicuous as the palmetto.

The palmetto (Arabic *doum*) is best developed on argillaceous soils in areas of mild temperature and moderate to heavy precipitation (fig. 7). These preferences explain the absence of palmetto in the cool highlands and its rare occurrence in semiarid areas. Dwarf palm may be seen on rocky knolls near Wad Moulouya, but most of the eastern half of northern Morocco is too dry for the species. In the western half of the zone the altitudinal limits of palmetto rise from west to east according to the lessening amount of precipitation.

The popular names "dwarf palm" and "palmetto" as well as the Linnaean binomial (*Chamaerops humilis*), derived from Greek and Latin roots meaning "dwarf or stunted bush," do not suggest that this plant may grow five to ten meters high. Excellent specimens of this height are preserved, however, at the cemeteries of Chella near Rabat and at Asni south of Marrakech. In northern Morocco I have seen tall palmettos on several sacred sites. Palmetto is exploited 000

[TEXT CONTINUED ON PAGE 25]

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[27] H. Camps-Fabrer, *L'Olivier et l'huile dans l'Afrique romaine* (Algiers: Service des Antiquités, 1953), p. 11, states that charcoal from a midden near Tébessa in eastern Algeria "a révélé d'une manière certaine l'existence de l'oléastre en Afrique au Paléolithique Supérieur." But in the study to which she refers—R. le Dû and L. Saccardy, "Etude de quelques charbons préhistoriques de la région de Tébessa," *Rev. Africaine,* 88 (1949), 111–119—there is no mention of oleaster. Charcoal of *Phillyrea,* another genus of the olive family, is mentioned, but this adds nothing to the history of *Olea europaea.* [113] [172]

[28] L. Joleaud, "L'ancienneté de la fabrication de l'huile en Afrique du Nord," *Rev. Africaine,* 70 (1929), 19–36. [113]

[29] If this be correct, the present range of the cultivated olive is almost completely separated from that of its ancestor. I. H. Burkill, "Habits of Man and the Origins of the Cultivated Plants of the Old World," *Proc. Linnean Soc. London,* 164 (1951–1952), 12–42, ref. to fig. 2, p. 16. [245]

262 443 [221]

Palmetto is exploited for its edible bud, and the old women who sell *ghaz* (palm cabbage) are a common sight in the streets of Tetuán and Tangier. During the summer, when cereal stocks are low, many families spend some time digging up palmetto.

Palmetto is exploited also for its fiber, used in the manufacture of *crin végétal.* 824 283 The collecting is done by women, who deposit bundles of palm blades near scales set out along most of the roads. The fiber is dried in the sun, and then twisted into loose rope and baled for marketing. The finished product serves as a substitute for horsehair in upholstering. In 1955, exporters in the northern zone handled 12,622 tons of fiber.[20] Native craftsmen make hats, mats, and baskets of the same material.

Disturbance of this sort encourages lateral development rather than tall growth 137 from a single stock, but seldom results in destruction of the plant.[21] The resiliency of palmetto is attested by its persistence in cultivated fields. The native farmer [241] has no means of eradicating the deep roots of this plant. Fields are burned and then cleared with hoes and cutting tools. This practice eliminates most shrubs, but it does not destroy palmetto. On the contrary, this plant, as a deep-rooting and heliophilous species, profits from the removal of competitive growth. When fields lie fallow or are abandoned, dwarf palm promptly begins to colonize.[22] In relatively undisturbed formations the palmetto is of secondary importance. It is not conspicuous, for example, in mature stands of cork oak. On sacred sites palmetto [778] is usually found on the edges of the protected growth. Where shrub vegetation is especially dense, as it is along the Mediterranean coast from Wad Lao to Puerto Capaz, dwarf palm grows on sunny south-facing slopes and on the upper edges of stream channels. Pure stands of palmetto seem to indicate floristic and morphologic impoverishment, a reduction of vegetation to its most resistant element.

Pistacia lentiscus (Arabic *dro*) is the second most important element of palmetto scrub. As with dwarf palm, it may be doubted that this plant should be described as a shrub. *Dro* usually appears as a shrub about one meter high, but where soils are deep and plants protected, it may grow three to five meters high. Such trees are rare today. With the exception of a few specimens scattered in the Anjra hills northeast of Tetuán, I have seen tall pistacias only on sacred sites and in a few areas protected by fences. In one form or the other this plant is encountered as an element of maqui in most of the Mediterranean region. It is found almost everywhere in Morocco; only in areas of extreme aridity and in the mountains above 1,500 meters is it absent. *Dro* is mixed with *Zizyphus lotus* in the Nkour

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[20] *Marruecos, zona jalifiana: guía económica* (Tetuán: Delegación de Economía, 1955), p. 59. 113

[21] The ability of the palmetto to survive disturbance is recognized by Theophrastus (*Enquiry* 137
into Plants . . . , II, 6): "The dwarf-palm is a distinct kind, having nothing but its name in
common with the other palms. For if its head is removed, it survives, and, if it is cut down,
it shoots again from the roots." Louis Emberger concludes, in *Les Arbres du Maroc et comment*
les reconnaître (Paris: Larose, 1938), p. 76: "Cette forme naine est determinée par l'action
continuelle des troupeaux, qui broutent les jeunes pousses, et de l'homme qui exploite le Palmier
nain pour en faire des cordages et consummer le cœur." M. Rikli, "Marokko," *Vegetationsbilder*,
24, Heft 4/5 (1934), concurs in this judgment, and adds that the prevalent form of the palmetto
"als fuss- bis kniehohes Hartlaubgestrüpp ist sekundär, durch anthro- und zoogene Einwirkung
entstanden."

[22] According to Louis Emberger, *Aperçu général sur la végétation du Maroc* (Bern: Hans
Huber, 1939), p. 150, "son expansion est le résultat de la destruction des forêts dans lesquelles
il était un élément floristique constant." G. Kuhnholtz-Lordat, *La Terre incendiée: essai*
d'agronomie comparée (Nimes: Editions de la Maison Carrée, 1939), p. 44, coins a new verb,
endoumer, the process by which forests degenerate to thickets of *doum.*

137 delta, but it becomes progressively rarer toward the eastern semiarid sector of
314 this zone. Pistacia wood is highly prized as a source of charcoal, and this fact
alone may explain the plant's degraded appearance in the hills south of Tangier.

Pistacia rarely forms a pure stand. Several of the other plants found in palmetto scrub could be described as weeds, for they appear mainly in fallow fields. *Asphodelus microcarpus, Urginea maritima, Daphne Gnidium,* and one or more species of *Asparagus, Ononis,* and *Papaver* are prominent among them. In areas where most of the surface is cultivated, as in the Fahs territory south of Tangier, these plants, together with thistles and scattered clumps of palmetto, constitute all but a small part of the total inventory of vegetation. On rocky knolls and alluvial slopes too steep for cultivation, these plants grow among *Pistacia, Calycotome, Lavandula,* and the oleaster. The percentage of thorny plants is high. Besides *Calycotome* and thistles, *Carduus, Smilax,* and *Rosa* are found.

Dense shrub formations are rarely seen on the thickly settled Atlantic versant. One may walk unimpeded anywhere in the zone bounded by the Atlantic coast, Tangier, and Ksar al-Kebir. The thick shrub growth on the Mediterranean coast near Wad Lao contrasts sharply with the open formations on the Atlantic littoral. In the former area, *Cistus ladaniferus, C. albidus, Erica arborea, Pistacia lentiscus,* and *Arbutus Unedo* combine to form an impenetrable thicket. The limestone mountains of northern Morocco are almost bare of shrub or tree growth.
133 From Ceuta to Wad Lao the eastern horizon is dominated by a great wall of limestone, almost completely devoid of soil. The prevalent whiteness is disturbed only by scattered clumps of palmetto and spiny gorse (*Ulex parviflorus*).

In the area covered by palmetto scrub the persistent riparian plant is the toxic *Nerium oleander.* It may be accompanied by *Crataegus, Myrtus,* and *Arbutus,* but in most of northwestern Morocco the oleander is the only plant on the banks of streams. The presence of *Alnus, Populus, Salix,* and *Vitex* along stream channels in the Sanhajan highlands may be explained by the persistence in that area of other trees, especially cedar, juniper, and oak, which have been adequate thus far as a source of fuel and building material.

In the drier eastern sector of northern Morocco, palmetto scrub grades into a thorn scrub dominated by *Zizyphus lotus,* a spiny and xerophytic member of the buckthorn family (Rhamnaceae). It is difficult to draw a line between these two formations. Isolated clumps of palmetto are found as far east as the Moulouya Valley, and zizyphus extends up the valley of Wad Ghis as far as Targist.

Well adapted to aridity and continentality, *Zizyphus lotus* has become the dominant plant of Morocco's semiarid plains. Clumps of zizyphus are conspicuous within most of the area mapped as thorn scrub. This plant may grow three meters high, but is most often seen as a shrub. It is deciduous; and, during the dormant winter season, gray and seemingly lifeless clumps of zizyphus are a characteristic feature of the landscape. Its branches are widely used as fence material, and this practice enhances the contrast between the semiarid sector of northern Morocco and the wetter western zone, where *Opuntia* is planted as a hedge. The fleshy
262 drupe of zizyphus is collected wherever it grows; when cereal stocks are exhausted, "lotus bread" is an important food.[*]

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222 [*] *Zizyphus lotus* is occasionally planted in Andalusia, Portugal, and Sicily, but in northern
113 Africa the fruit is collected from wild plants. Aug. Chevalier, "Les jujubiers ou zizyphus de

137 On protected sites, zizyphus and sumac (*Rhus pentaphylla*) form a thicket. In areas where zizyphus and sumac are mixed with *Pistacia atlantica*, the thorn scrub formation could be described as a thorn forest. Fields that have been fallow for several years are covered with *Asphodelus microcarpus*, *Marrubium alysson*, *Fagonia cretica*, and *Lycium intricatum* as well as the ubiquitous zizyphus. Alfa grass (*Stipa tenacissima*) covers part of the area between Ikibdhanen and Kar-Kar. Alluvial soils in the same general area are covered with esparto grass (*Lygeum spartum*) and dwarf sage (*Artemisia herba alba*). The areas occupied by these three species may be advanced colonies of the steppe formations of the upper Moulouya Valley and the Algerian Hauts-Plateaux.

FOREST FORMATIONS

As figure 8[A] indicates, most of the forest species in northern Morocco belong to the families Pinaceae and Fagaceae. Two evergreen oaks dominate the latter group: the holly or holm oak (*Quercus Ilex*) and the cork oak (*Quercus Suber*). The wide range of the holly oak is indicative of its edaphic and climatic tolerance (fig. 7).[B] In northern Morocco it is found from an elevation of about 500 meters up to the crest of the Rif chain. It is mixed with cedar and fir above 1,500 meters and with zizyphus in the semiarid region east of Alhucemas. *Quercus Ilex* may appear as a tall tree, but most specimens show the damaging effects of fire, cutting, and browsing. The holly oak is certainly a forest species, but it would be misleading to speak of forests of this tree. The area delimited in figure 8 merely indicates the zone in which specimens of this species are numerous. Many specimens are only two meters high. Emberger estimates that *Quercus Ilex* is spread over 700,000 hectares of Morocco, and that this territory may represent less than half of the primordial range.[illegible]

[132] The effective limit of the cork oak nearly coincides with the 400 mm. isohyet. *Quercus Suber* appears on schist in the highlands of Ghmara and Sanhaja, on sandstone in the mountains west of Tetuán and Shawen, and on Pliocene dunes south of Larache. Cork forests are not found on residual soils weathered from limestone, or on heavy alluvial soils. Most of the eastern half of northern Morocco is too dry for the cork oak. A single stand occurs in the highlands east of Wad [132] Nkour, where the orographic mechanism produces rainfall heavier than is observed in the neighboring lowlands.

The natural form of the cork oak is that of a large tree with a short trunk and spreading crown. Specimens of this form are rare today. Tall trees develop from seed regeneration, whereas most trees have a lateral growth that results from sprouting. The latter habit indicates a history of abuse, whether by cutting, burning, or browsing. Undisturbed forests usually have a shaded floor with little underbrush, but cork trees are more commonly accompanied by a number of shrubs. The faithful companion of *Quercus Suber* in northern Morocco is the woody briar *Erica arborea*, which also avoids calcareous soils. Under conditions of extreme degradation, the quick-seeding Cistaceae and the aggressive palmetto are more prominent than other undergrowth. Frequent disturbance, especially

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[222] l'ancien monde et l'utilisation de leurs fruits," *Revue de Botanique Appliquée et d'Agriculture* [113] *Tropicale*, 27 (1947), 470–482.

[illegible] Emberger, *Les Arbres du Maroc*, p. 117.

A, B, [See pp. 24 & 20 respectively--Analyst]

137 by burning, may completely destroy the oaks. The Mamora cork forest north of Rabat (137,000 hectares) is the largest in the world.[*] Cork oak covers about 100,000 hectares in the northern zone.[*]

314 Much of the economic activity in northern Morocco is concerned with the collection and shipment of cork. The bark of the trunk and the larger branches is utilized. Cork is first removed when trees are about twenty years old, with subsequent stripping every seven to ten years. The first yield (*liège mâle*) is very rough and coarse and of little value. Cork of subsequent stripping (*liège de réproduction*) is more homogeneous and of higher commercial value. In northern [464] Morocco, cork is collected by Spanish concerns with native labor, and also by small independent operators who collect cork from isolated villages and carry [439] it to places of deposit on the main roads. Most of the cork from northern Morocco is shipped in bulk to Spain.

137 Deciduous oaks cover about 7,000 hectares in northern Morocco. Two species are represented, and they have the scattered distribution characteristic of relicts. The larger stand of deciduous oaks grows at an elevation of about 1,000 meters in the mountains west of Shawen and southwest of Bab Taza—Jbil Buhashim, Jbil Sugna, and Jbil Hazana. *Quercus pyrenaica = Q. Tozae* is the species in this area; it appears also at elevations of 1,200–2,000 meters on Jbil Tiziran and, as the binomial indicates, in the Pyrenees. The second species, *Q. faginea = Q. lusitanica*, is scattered over the Sanhajan highlands. The largest stands are on the slopes between Jbil Tiziran and Jbil Leshab. Other stands appear on the slopes of Adrar Tidighin and Adrar Taghzut, and there are a few trees mixed with *Erica arborea, Cistus ladaniferus*, and *Pistacia lentiscus* in the maqui near Tangier.

It is difficult to explain the scattered distribution of the deciduous oaks. They are abundant in the largest forested area (fig. 8), that of the mountains west of Shawen, but many of the trees in this forest were cut by the Spanish for use as railroad ties. Both species seem to be calcifuge, and it is unlikely that either will be found in the drier parts of the zone. The scattered and mountainous distribution suggests that the deciduous oaks are Pleistocene relicts now restricted to the coolest and wettest parts of northern Morocco. The extreme polymorphism of *Quercus faginea*, with its great number of subspecies and races, seems to support this view.

The highest peaks in northern Morocco are clothed with forests of fir and cedar. The former genus is confined to the calcareous mountains east of Shawen. Two species are present: *Abies tazaotana* occurs at elevations of 1,500–1,854 meters on Jbil Tazaot, and *A. pinsapo* appears on Jbil Maggo, Jbil Tisuka, and Jbil Leshab, as well as in the mountains near Ronda in southern Spain. This restricted highland distribution again suggests that these species are relicts. On Jbil Tisuka and Jbil Leshab, forests of fir begin at an elevation of 1,600

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[113] [*] Estimate of Emberger, *Aperçu général sur la végétation du Maroc*, p. 101. For an excellent description of the Mamora forest see A. Métro and Ch. Sauvage, *Flore des végétaux ligneux de la Mamora* (Rabat: Société des Sciences Naturelles et Physiques du Maroc, 1955).

[113] [*] This figure and the estimates of forested surface in later paragraphs are taken from S. Sánchez Cózar, "Montes," *Conferencias desarrolladas en la Academia de Interventores durante el curso de 1947* (Tetuán: Imprenta del Majzen, 1948), pp. 5–25. Earlier estimates appear in E. Gonzáles Vázquez, *El Marruecos forestal* (Madrid: Ediciones Técnicas, 1945).

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137 meters and persist up to the summits at slightly above 2,000 meters. Fir forests are never pure. Deciduous oaks replace fir in moist canyons, and the maritime pine is found on drier, south-facing slopes. Cedar is scattered through most stands of fir, but is conspicuous only on the highest peaks. There are about 6,000 hectares of fir forest in northern Morocco.

The Atlas cedar (*Cedrus atlantica*) is North Africa's most valuable source of timber.[11] Cedar forests are found in the Rif and the Middle and High Atlas in Morocco, and on some of the highest peaks in Algeria. In northern Morocco cedar forests extend from the calcareous range east of Shawen to the schistose mountains south of Targist. A single isolated stand appears on Jbil Kelti, in the karstic mountains of Bani Hassan. The best forests are found on siliceous soils in the Sanhajan mountains, where the cedar is prominent from an altitude of 1,600 meters to the summits of the highest peaks (pl. 1, *b;* pl. 10, *a*). In the valley of Wad Ouergha some cedars may be seen as low as 1,000 meters, and a small stand of very large trees appears at Tlata Ktama at 1,300 meters. In the High Atlas, cedar forests give way to *Juniperus thurifera* at about 3,700 meters. There is no natural timberline in northern Morocco, but trees are stunted on the highest peaks (pl. 1, *b*). Distortion caused by strong winds is especially evident on the summit of Adrar Tidighin. Stumps a meter in diameter have about a hundred rings, but it is difficult to generalize about the age and size of trees, for edaphic and microclimatic factors are highly varied in mountainous terrain.

In the few areas where cedar forests are undisturbed, closely spaced trees shade out shrubs, and undergrowth consists mainly of ferns (*Pteris apulina*). On steep slopes and on the edge of clearings, cedars are mixed with *Juniperus Oxycedrus* and cork oak or holly oak. When cedar forests are cut or burned, the oaks become dominant. When the latter also are destroyed, forest degenerates to scrub. Badly degraded slopes are covered with scrub oaks (i.e., sprouts from the damaged trunks of holly oak or cork oak), *Genista quadriflora, Cistus laurifolius, Halimium lasiocalycinum, Cytisus megalanthus, Daphne Gnidium,* and *Thymus riatarum.* Where destruction of the forest is accompanied by severe erosion, slopes may be covered only by widely spaced clusters of *Genista* and occasional junipers. In areas of sparse human population, stream channels are lined with *Alnus glutinosa, Salix purpurea, Populus nigra, Crataegus laciniata, Rosa canina, Betula alba,* and *Vitex Agnus-castus.*

The distribution of the Moroccan pines is difficult to explain. Two species are identified in figure 8. The maritime pine (*Pinus pinaster*) is scattered in the Rif highlands from Shawen to the Nkour Valley, and the Aleppo pine (*P. halepensis*) appears in the foothills of the Rif chain and at several places on the Mediterranean coast. There are a few stands of maritime pine in the Sanhajan highlands, all on the Mediterranean versant and all at an elevation of about 1,500

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[11] Taxonomists usually distinguish *four* species of *Cedrus:* the Atlas cedar (*C. atlantica*), the Cyprus cedar (*C. brevifolia*), the cedar of Lebanon and southwestern Turkey (*C. Libani*), and the Himalayan deodar (*C. deodara*). Actually, the distinction among these forms is trivial, and some authors prefer to regard them as geographical variants of a single species. René Marie, in his monumental *Flore de l'Afrique du Nord* (Paris: Lechevalier, 1952), lists the Atlas cedar (113) as *Cedrus libanotica ssp. atlantica.* The best general description of the ecology of the several "species" is Louis Emberger's "Contribution à la connaissance des Cèdres," *Revue de Botanique Appliquée et d'Agriculture Tropicale,* 18 (1938), 77–92.

137 by cutting, browsing, or fire. This ability explains the presence of scrub thuya
in deforested areas. But it grows slowly and is sensitive to disturbance in its
early years. In the area delimited on the map, thuyas are widely scattered
and for the most part badly mutilated. Large formations have been completely
[313] destroyed. More than half of the houses in the eastern part of the Rif have
[314] rafters of thuya, which is used, wherever it grows, as a source of charcoal. The
[322] Barbary thuya has been used for centuries in making cabinets and other furniture, and was esteemed by the Romans for roofing temples.[illegible] Damaged trunks
sometimes develop giant burls, which have been used since classical time as table
[314] tops. A hard resin, sandarac, exudes from the trunks, and a modest quantity
[439] of it is shipped to Britain, where it is used in the manufacture of varnish.[illegible]

[illegible] Pliny, *Natural History*, XVI. 231, XXXIII, 146.

[113] [illegible] W. Dallimore and A. Bruce Jackson, *A Handbook of Coniferae* (London: Edward Arnold, 1948), p. 610.

Chapter III

CULTURE HISTORY PRIOR TO EUROPEAN INTERVENTION

172 174 For the populations and civilizations that reached it, Morocco was a cul-de-sac. Every movement came up against the Atlantic barrier and was retarded by the hostile environment of the Sahara. During the Pleistocene epoch and, indeed, during the first millennia of Recent geologic time, Morocco was a redoubt in which outmoded ways of life perfected themselves in isolation. The descendants of the Neolithic farmers remained dependent on stone tools three thousand years after the Egyptians, at the other end of the Mediterranean, had begun to use metal. Basically, the Stone Age cultures still persist, in spite of Phoenician, Roman, Arab, and European influence.

000 The historic accounts of the Canary Islands are of special interest. When the Norman and Spanish conquerors reached the Canaries a few generations before the discovery of America, the islanders spoke a Berber dialect and still retained their Neolithic culture. They used stone tools, and fashioned implements from wood, horn, and shell. They produced crude and underfired pottery in the Neolithic style, and their textiles were plaited matting and basketry. Their clothing was of cured goatskin, and their houses were made of stone, pine timbers, and earth. They raised pigs, dogs, sheep, and goats, and grew barley and wheat. They knew how to preserve meat by drying and milk by making cheese. Add metal, weaving, and the crops and animals introduced from southwestern Asia and the Americas, and this outline of material culture is little different from that of an isolated Moroccan village of today.[1]

The Problem of Climatic Change

172 132 A mass of circumstantial evidence suggests that Barbary has become drier since the time of the Roman occupation. The impressive ruins of Thamugadi (Timgad) and the great amphitheater of Thysdrus (el-Jem) now stand on desolate plains. The ancient seaports of Leptis Magna and Sabratha were found buried under an immense drift of sand. Mosaics and historical records tell of the presence in Roman Africa of elephants, lions, and other wild animals now confined to the tropical zone. Further examples of change presumed to be a result of desiccation could be cited, but these suffice to illustrate the type of evidence that impresses the traveler.

174 132 114 182 It cannot be denied that the landscape of northern Africa has changed since classical time, but the thesis of a climatic explanation of this change is difficult to defend. Most of the evident deterioration can be traced to neglect or destruction by man. Aqueducts, dams, and cisterns made possible the building of the now dead cities. With the collapse of the Pax Romana, marginal land dependent on irrigation went out of cultivation. Burning, cutting, and overgrazing

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[113] [1] Leonardo Torriani, *Die kanarischen Inseln und ihre Urbewohner;* trans. from the MS of 1590 by D. J. Wölfel (Leipzig: K. F. Koehler, 1940), Vol. VI of *Quellen und Forschungen zur Geschichte der Geographie und Völkerkunde.* C. S. Coon, in *Caravan: The Story of the Middle East* (New York: Henry Holt, 1951), pp. 36–40, calls attention to the Canary Islanders as "Berbers" unaffected by foreign influence.

174 132 114 182 favored the propagation of xerophytic and heliophilous plants, and thus enhanced the illusion of desiccation. The "tropical" animals pictured on Roman mosaics did not die out as a result of climatic change; they were exterminated by man. The last elephants probably disappeared in Roman time. Lions may have been in the Atlas Mountains until about 1900. Ostriches, antelopes, and other animals nearly extinct in the Sahara still survive along the upper reaches of the Saqiyah al-Hamra in Río de Oro. The arguments for and against desiccation in historic time have been debated at length, and the weight of evidence is against a significant change in climate.[2]

THE BERBERS

101 The autochthonous inhabitants of northern Africa are usually described as Berbers. In classical times this appellation, derived from Greek and Latin roots meaning "barbarian," was applied to individuals or groups living beyond the Orbis Romanus. Today Berber is applied as a general name, devoid of pejorative implication, to North Africans who are not Arabized. The people thus designated refer to themselves as *imazighen* (nobles). The European term serves a useful function if its application is determined by the persistence of Berber speech, but confusion results when it is given racial, moral, or psychological connotation. Romantic notions of the Berbers as "noble savages" may be found even in serious works.[3] The French had an instinctive liking for the Berbers, because they seemed more European than Oriental in physical appearance and mental outlook. But the policy of encouraging Berber languages, Berber law, and Berber traditions, as a means of checking Arab nationalism, had at best only temporary success.

142 141 The racial characteristics of the Berber-speaking peoples are far from uniform. In the Kabylie, Aurès, Rif, and Atlas mountains one may see dolichocephalic people, with blue or gray eyes, and light brown or even blond hair. Other Berber-speaking peoples are darker and have round heads. Many Berbers are of the classical Mediterranean type. The Tuareg form another group, tall and lean, with short bodies and long limbs. The physical characteristics of the indigenous peoples [144] of northern Africa seem to have resulted from the crossing of several races during widely separated periods.[4]

101 114 [648] The confusion surrounding the meaning of "Berber" is further complicated by the fact that French colonial policy called for a division of Morocco into Berber and Arab territories, each with a distinct system of local government and law.[5] In unreasoned protest against the implications of this policy, some authors, sympa-

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[113] [2] There are many discussions of this problem: Stéphane Gsell, *Histoire ancienne de l'Afrique du Nord* (Paris: Hachette, 1913–1928), I, 44–99; Jean Despois, *La Tunisie orientale: Sahel et Basse Steppe* (Paris: Les Belles Lettres, 1940), pp. 237 ff.; Rhoads Murphey, "The Decline of North Africa since the Roman Occupation: Climatic or Human?" Association of American Geographers, *Annals*, 41 (1951), 116–132; and K. W. Butzer, *Studien zum vor- und frühgeschichtlichen Landschaftswandel der Sahara* (Wiesbaden: Franz Steiner, 1958), pp. 5–17.

[113] [3] For an interesting example of Berber romanticism, see Edouard Brémond, *Berbères et arabes: la Berbérie est un pays européen* (Paris: Payot, 1950).

[113] [4] C. S. Coon, "Tribes of the Rif," *Harvard African Studies*, 9 (1931); L. Cabot Briggs, "The Living Races of the Sahara Desert," Peabody Museum of Archaeology and Ethnology, *Papers*, 28 (1958).

[113] [5] As recently as September, 1956, pamphlets urging the Berber tribes to revolt against "Arab imperialism" were distributed in Morocco. The Moroccan police promptly established that these tracts had been typed and mimeographed on machines used by an organization known as the "Présence Française." For the text of one of the tracts and the Moroccan reaction to it, see *Al-Istiqlal*, September 7, 1956, and the *Tangier Gazette*, September 14, 1956.

101 114 thetic to Moroccan or "Arab" nationalism, refer to a "Berber myth" and refuse to recognize any ethnic division in the country.[6] The *politique berbère* may have had its faults, but this fact does not mean that we should rewrite Moroccan history.

197 Berber dialects are still spoken by six to seven million people, including about 45 per cent of the population in Morocco, about 30 per cent in Algeria, and about 2 per cent in Tunisia.[7] Berber dialects are spoken also in the Jabal Nefusa and the Siwa oasis in Libya,[8] and on the southern fringe of the Sahara. The Berber language once extended to the Canary Islands.

The Berber-speaking peoples of northern Africa are now concentrated in five groups: Rifians, Braber, Shluh, Kabylies, and Shawiya (fig. 9). They are chiefly mountaineers, and all but the Braber, who practice transhumance, are sedentary [177] farmers. The other groups include the Ghmara, who are almost completely Arabized, the tribesmen of Sanhaja as-Srair, a small colony on the island of Jerba, the Tuareg of the central and southern Sahara, and the inhabitants of the oases of Mzab, Touggourt, Ouargla, Ghardaia, Figuig, Gourara, and Touat.[9]

The original home of the Berber language is unknown, but scholars believe that it is most nearly related to Ancient Egyptian, Cushite, and certain of the Chad languages, which are traditionally but perhaps improperly called Hamitic.[10] This relationship reinforces the theory advanced by archaeologists that the Neolithic of northern Africa shows Egyptian influence.[11] In spite of a bewildering number of dialects, which is normal for an ancient language without literature, Berber can be divided into three groups: Masmuda, Sanhaja, and Zenata.[12] Masmuda was the language of the majority of the sedentary farmers before the Arab invasion. The Shluh and the Ghmara speak it today; Rifian is thought to be a mixed form. The Sanhajan dialect was the speech of the transhumants and nomads. It is now spoken in northern Morocco (Sanhaja as-Srair), in the Middle Atlas, and by the Kabylies, Shawiya, and Tuareg. Zenatiya, formerly confined to the high plateaus of Algeria and the Oujda region, has spread to many of the Saharan oases, including distant Siwa. Because of natural population growth the number of Berber speakers has increased, but the area of Berber speech has lost ground ? to Arabic. In fact, since the Muslim conquest Berber has gained ground only in Negro Africa, where some tribes in the Niger Territory and the French Sudan have adopted the Tuareg dialect. Without fixed grammar or an effective system [212] of writing, Berber could not compete with the language of the Prophet.[13]

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[6] Marvine Howe, "The Birth of the Moroccan Nation," *Middle East Jour.*, 10 (1956), 1–16.

[7] G. H. Bousquet, *Les Berbères* (Paris: Presses Universitaires de France [collection "Que Sais-Je?"], 1957), pp. 16 ff.

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[8] Louis Dupree, "The Non-Arab Ethnic Groups of Libya," *Middle East Jour.*, 12 (1958), 33–44.

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[9] On the distribution of Berber speech, see also André Basset, *La langue berbère* (London: Oxford University Press, 1952).

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[10] J. H. Greenberg, *Studies in African Linguistic Classification* (New Haven: Compass Publishing Co., 1955). First published in *Southwestern Jour. Anthro.*, 5, 6, 10 (1949–1954).

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[11] Egyptian influence on north African rock art is examined in Raymond Vaufrey, "L'art rupestre nord-africain," *Archives de l'Institut de Paléontologie Humaine*, Mémoire 20 (1939). The most striking evidence of direct influence is the presence in Algeria of rock drawings of rams wearing the solar disk associated with the worship of Re. When worn by the ram, which was sacred to Amon of Thebes, it indicates Amon-Re, the composite god of Egypt during the New Kingdom (1600–1100 B.C.).

[12] These are the major genealogical divisions of Ibn Khaldun. Strictly speaking, it is not correct to use this division in linguistic classification.

[13] The only system of writing at the time of the Arab conquest was the Libyco-Berber alphabet used in rock art. This alphabet was probably developed from ideas borrowed from the Phoeni-

531 In addition to a common language, certain other culture traits are shared by
171 most Berbers. The Berber arts still differ from the Islamic arts acclimatized in
Barbary. Designs on pottery, rugs, and blankets are almost entirely in geometrical
patterns. Nothing could be clearer than the contrast between the lozenges and
chevrons of Berber work and the complicated floral and epigraphic designs of
342 Levantine art. The simple houses of the Moroccan highlands probably are local
171 variants of the prevalent Mediterranean types, but the multistoried buildings of
rammed-mud blocks in southern Morocco show eastern affinity. Indeed, no traveler
who has seen the Moroccan *qsar* and the "skyscrapers" of southern Arabia can
171 fail to be impressed by the similarity of the two.[14] Similarity of this sort suggests
diffusion of style and techniques from a common center, possibly eastern Africa,
which may also have been the main center of the "Hamitic" languages.

771 A few nonmaterial traits also can be associated with Berber speakers. We can
789 still discern among them the remains of an agrarian animism. The ceremonies that
171 seek to obtain through rain, considered as the male element, the fecundity of the
[772] soil, which represents the female, are doubtless of this category. Wherever Berber
is spoken, the important events are reckoned by solar months, not by the Muslim
[805] lunar calendar.[15]

Until recently the social organization of most Berber-speaking communities
631 differed from the Arab or Muslim order.[16] The Berber districts were characterized
by extreme fragmentation into small units, each guided by ideals of independence
[596] and self-sufficiency.[17] The cell of each unit was the family. Several families formed
[614] clans, with about a hundred members who traced their descent from a common
ancestor. In the regions of deep-rooted peasantry, particularly in the mountains,
631 groups of related people were linked by means of assemblies composed of delegates
634 from each family.[18] The function of the assembly was to regulate the tasks and
taxes of the community. To ensure the execution of decisions and to facilitate
relations with other assemblies, a chief, or elder (*amghar*), was appointed, but
he was only the delegate of the assembly and every precaution was taken to prevent
aggrandizement of his powers. A prudent rotation arranged for the representatives of the principal families to take office in turn. The territory governed by the

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[212] cians. In modified form, it is still used by the Tuareg. G. Marcy, "L'épigraphie berbère numidique
et saharienne," *Annales de l'Institut d'Études Orientales*, 2 (1936), 128–164; F. R. Wulsin, "The
[113] Prehistoric Archaeology of North-West Africa," Peabody museum of Archaeology and Ethnology,
Papers, 19 (1941), 111–114.

[113] [14] Cf. the photograph of San'a in Harry Hoogstraal, "Yemen Opens the Door to Progress," *Nat. Geog. Mag.*, 101 (1952), 238, and of Tinerhir in Jean and Franc Shor, "From Sea to Sahara in French Morocco," *ibid.*, 107 (1955), 178–179.

[113] [15] Other examples of pagan survivals in Morocco are given in three works of Edward Westermarck: *Ceremonies and Beliefs Connected with Agriculture, Certain Dates of the Solar Year, and the Weather in Morocco* (Helsinki: Akademiska Bokhandeln, 1913); *Ritual and Belief in Morocco* (London: Macmillan and Co., Ltd., 1926); and *Pagan Survivals in Mohammedan Civilization* (London: Macmillan and Co., Ltd., 1933).

[113] [16] The remarks to follow are based upon Robert Montagne's *Les Berbères et le makhzen dans le sud du Maroc: essai sur la transformation politique des berbères sédentaires (groupe Chleuh)* (Paris: Alcan, 1930).

[17] I use the past tense because the French-sponsored *dahir* of May 16, 1930, which called for a division of Morocco into two districts, one under Qur'anic and the other under tribal law, was repealed on September 4, 1956. Under the present system the functions of the assemblies are exercised by officials appointed in Rabat.

[113] [18] With excellent insight, Konrad Wiche, "Marokkanische Stadttypen," in *Festschrift zur Hundertjahrfeier der geographischen Gesellschaft in Wien, 1856–1956* (Vienna, 1957), p. 492, describes the Berber assemblies as *Talschaften* (valley associations).

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634 assembly was an economic unit. In the Shluh area of southwestern Morocco most 343 of the independent communities have still or had formerly a collective storehouse, 171 or *agadir* (Berber *tighremt*), administered according to minutely established rules.[19]

Under normal conditions the social hierarchy did not extend beyond the family and the assembly. Larger groups assumed importance only in periods of crisis, as when there was a revolt against the sultan or need of defense against an enemy. 619 The next order, which is still of minor importance, is the tribe, traditionally formed [634] of the members of three to ten assemblies. The members of a tribe also claim descent [614] from a common ancestor. The genealogical connotation is apparent in tribal names, which are usually prefixed by *bani* or *aith*, Arabic and Berber, respectively, for "sons of" and "people of." Each tribe has at least one weekly market and a sanctuary—the tomb of the patron of the tribe—which is the focus of an annual pilgrimage. But the manifestations of tribal unity were and are largely ceremonial, and in the past tribal chiefs were elected only in time of war. Moreover, the tribal unit 619 was divided and weakened by an elaborate system of moieties (*leff*). All the com-616 munities making up a tribe were thus paired, and every family or clan had the right to call upon its *leff* brothers in an emergency. At various times in Moroccan 631 history, tribes have been grouped to form confederations, but large organizations 619 of this sort had neither a permanent chief nor an assembly. With the exception of the Rifians, most Moroccans have lost interest in the confederations. "On the whole," as Henri Terrasse remarks, "Morocco has been a conglomeration of little Berber republics keen to maintain their autonomy and, in case of need, to defend vigorously or reconquer in pitiless revolts their independence and their customs."[20]

177 Wherever Arabic has replaced Berber speech, there also Qur'anic law has replaced the old tribal order. In such areas one can no longer speak of "Berbers," but neither can one speak of "Arabs," in the sense of Arabians or Levantines. The cultural dichotomy now evident in northern Africa is the result of a long process of assimilation. The forces which have brought about Arabization are analogous to those which produced the Hispanization of Latin America. This analogy is reasonable, for the number of Arabians in the Atlas is probably no larger than the number of Spaniards in the Andes.

PUNIC AND ROMAN INFLUENCE

175 The historic period did not begin at the same time for the whole of Barbary. Along the coast it began with the arrival of the Phoenicians, late in the second or early in the first millennium B.C. It is probable that the Barbary coast was visited by Minoans and Egyptians also, but there is no evidence that they founded colonies. The regions occupied by the Phoenicians became part of the civilized Mediterranean world. Carthage, near the modern city of Tunis, was founded in 814 B.C. by settlers from Tyre. Utica, thirty kilometers to the northwest, and Gades (Cádiz) date from 1101 B.C. Other settlements, a day's voyage apart, were founded on the Algerian coast. On the Rifian coast it appears that colonies were

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[113] [19] For detailed accounts of the Moroccan granaries, see Dj. Jacques-Meunié, *Greniers-citadelles au Maroc* (Paris: Larose, 1951); and Robert Montagne, *Un Magasin collectif de l'Anti-Atlas, l'Agadir des Ikounka* (Paris: Larose, 1930).

[20] Henri Terrasse, *Histoire du Maroc* (Casablanca: Editions Atlantides, 1949), I, 33.

175 established at Rusaddir (Melilla), Tingi (Tangier), and one or more intermediate points, but the regular chain of trading stations did not extend west of Cartennae (Ténès).[illegible] The strong strategic position of Carthage and the comparable one of Gades enabled the Carthaginians, who were uncompromisingly intolerant of interlopers, to prevent any interference with their trade by foreigners. There was no need to occupy a continuous stretch of the north African coast.

Active interest in the Atlantic coast of Morocco seems to have been delayed until after Tartessos had been destroyed and the Carthaginians had gained control of the Spanish silver mines. Even then the commercial importance of Carthage continued to be based upon its privileged situation at the contact of the two Mediterranean basins. The evidence, both historical and archaeological, suggests that Punic merchants did not develop a serious interest in the open sea until after the commercial possibilities of Sicily, Sardinia, the Balearic Islands, and western Iberia had been thoroughly explored.[illegible] In classical time, Mare Altum was thought to be a domain of "demons, eerie darkness, mudflats, and immense fields of seaweed" from which no ship could free itself. But, as Paul Hermann suggests, these tales may have been deliberately spread by the various powers in control of the Strait to discourage competition.[illegible]

The periplus of the Carthaginian admiral Hanno, who between 475 and 450 B.C. led an expedition of discovery and colonization to the Atlantic coast of Africa, still gives rise to long arguments.[illegible] It is not necessary to review the arguments for and against the notion that he sailed as far as the Gulf of Guinea. The important point is that this expedition was commissioned to found colonies on the Moroccan coast. Six colonies are named in the periplus, but no two scholars agree on their location. Punic remains have been unearthed only at Tingi (Tangier), at Lixus (near Larache), and on a rocky islet off Mogador,[illegible] but other settlements are mentioned in inscriptions or on coins.

Carthage itself rapidly became a great metropolis, but the Carthaginian land empire was never large. In the third century B.C. it seems to have included nearly all northern Tunisia but very little of Algeria, apart from a narrow zone along the coast. Much of eastern Algeria became Punic in language and culture, but the more remote trading stations were separated by large areas under barbarian control. "The power of Carthage," as Miss Semple suggests, "was based on its overseas trade and the land beneath its feet, not on the big continent at its back."[illegible]

The Carthaginians were so successful in concealing their secrets that we can draw only tentative inferences about the nature of their trade. It is likely that

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175 [illegible] Ch.-André Julien, *Histoire de l'Afrique du Nord* (2d ed., Paris: Payot, 1956), I, 65, and fig. 4.

[illegible] On the chronology of Phoenician expansion, see Rhys Carpenter, "Phoenicians in the West," *Am. Jour. Archaeol.*, 62 (1958), 35–53.

113 [illegible] Paul Hermann, *Conquest by Man* (New York: Harper and Bros., 1954), p. 36. The Carthaginians sought to prevent other powers from gaining access to the tin of Cornwall and Brittany. The exclusion of the Greeks and Romans from the coastal waters of the western Mediterranean is reflected also in the paucity of information given by the classical authors about the African trade.

[illegible] For an English translation of the periplus, see B. H. Warmington, *Carthage* (London: Robert Hale, 1960), pp. 62–64.

[illegible] For discussion of the probable range of Punic settlement in Morocco see Pierre Cintas, *Contribution à l'étude de l'expansion carthaginoise au Maroc* (Paris: Arts et Métiers Graphiques, 1954).

[illegible] E. C. Semple, *The Geography of the Mediterranean Region: Its Relation to Ancient History* (New York: Henry Holt, 1931), p. 141.

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most of the Punic trade was of an entrepot nature, with goods carried from one country to another or raw materials exchanged for finished products. The Carthaginians were not dependent on Africa itself for the support of their trade. Indeed, the Berber tribes of the littoral were probably too primitive to be able to make any great contribution to it. Wool, skins, timber, purple dye, ivory, and ostrich feathers were the principal local products that found their way into foreign ports. It is not known whether the Carthaginians imported gold or slaves from across the Sahara, but it is reasonable to suppose that Hanno's expedition was intended to establish an easier route for such a trade.[illegible]

It follows that cultural changes during this period should be described largely in terms of diffusion or drift, not as a direct exchange. The Carthaginian merchants carried not only the objects of their trade but also customs and techniques, ideas and beliefs. Elements of Punic culture, both material and nonmaterial, seem to have spread far beyond the coastal towns. Some of these innovations were obscured in later centuries by Roman and Arab influence, but a Punic substratum can still be discerned in Berber culture.

When the first Thalassic traders reached Barbary, the native peoples were growing barley and wheat, and used all the domestic animals (except the dromedary) now found in the area. The vine, pomegranate, almond, walnut, and olive may have been introduced to Barbary by the Phoenicians. Each of these trees is grown by cuttings, a technique previously unknown in northern Africa. A pre-Roman introduction of the oleaster is a necessary part of the thesis that this tree is not really a wild race, for in Roman time a clear distinction was made between cultivated and "wild" trees. As a result of all or part of these introductions, northern Africa began to shift from cereal farming and transhumance to a Thalassic agriculture of terraced orchards and gardens. Barley and wheat remained the staples, but the diet probably came to include a greater variety of vegetables and salad plants. The Carthaginians may have introduced refinements of irrigation technique also.

Another result of Punic influence is that tools tipped with iron replaced implements of wood, stone, and bronze.[illegible] Although evidence is lacking, it may be presumed that stone architecture was adopted in some areas in place of cruder construction with mud bricks, straw, and hides. The family crafts of the Berbers probably were not greatly altered, for the Carthaginians were indifferent craftsmen, and in northern Africa even today there is an almost complete separation between the arts of the countryside and those of the towns. But the rural tribesmen must have had ample opportunity to observe and test new ideas and new techniques. In each tribe there would have been several men who had served the Carthaginians as mercenary soldiers, and many tribal areas were attached, at least partly, to native kingdoms that were under Punic control. Evidence of Punic influence has been recovered at several Roman sites. At Lixus, some megalithic tombs, anterior to the Roman tradition, are clearly Punic. Subterranean tombs

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[illegible] For discussion of this possibility see E. W. Bovill, *The Golden Trade of the Moors* (London and New York: Oxford University Press, 1958), pp. 22 ff. [113]

[illegible] It used to be said that northern Africa moved from the Stone Age to the Iron Age without passing through an intermediate era of bronze. It is now known that bronze implements were used in many parts of Barbary at the time of the Phoenician invasion. G. Camps, "Les traces d'un âge du bronze en Afrique du Nord," *Rev. Africaine*, 104 (1960), 31–55. [113]

175 Punic civilization was certainly stronger in the littoral zone than in the highlands. Nevertheless, the pattern of life must have changed, even in the more remote areas, between the time of Hanno's voyage and the arrival of the Romans.

After the third Punic war, which ended in 146 B.C., the area directly controlled by Carthage became a Roman province, the Provincia Africa. Long experience in administering conquered territories had taught the Romans that it is difficult to control an expanding frontier. They resolved, therefore, to restrict their occupation to Carthage and its hinterland.[illegible] At first this resolution was accepted, but in time the hostility of the native tribes and the ambition of the Roman commanders led to wider conquest. Numidia, roughly eastern Algeria, was occupied in 45 B.C., and in A.D. 46 the Emperor Claudius created two new provinces, known as Mauritania Caesariensis and Mauritania Tingitana from their capitals Caesarea (Cherchell) and Tingis (Tangier). With these annexations the whole of the north African littoral came under Roman rule.

The extent of Roman control can be roughly delimited by the remains of an elaborate system of frontier defenses (fig. 10). The word for such a system—*limes*—denoted not only material barriers but also forts, camps, and roads behind the line and outposts and watchtowers in advance of it.[illegible] This system of defense in depth was designed to delay attackers until reserves could be brought to the frontier zone. In Tunisia and eastern Algeria the defensive system was intended to prevent raids by nomads from the pre-Saharan zone—a problem the Romans helped to create by introducing the dromedary.[illegible] In Mauritania and the western sector of Numidia the system was apparently designed to protect the fertile plains from attacks by the unsubdued mountain tribes. Responsibility for the defense of much of the frontier was relegated to retired legionaries or peasant soldiers (*limitanei*), who established semimilitary colonies, comparable to the *kibbutzim* of modern Israel. When they were first organized, most of the *limitanei* were probably recruited from troops already on the frontier. Later, land was given to Latinized barbarians.[illegible]

In Tingitana at the end of the second century, the fortified frontier started on the Atlantic coast, a few kilometers south of Rabat, and then continued eastward between the Rif chain and the Middle Atlas. The easternmost outpost yet discovered is at Bou Hellou, between Fez and Taza. Although archaeological evidence is lacking, there is reason to believe that Tingitana and Mauritania Caesariensis were linked by a military road.

The part of Morocco directly controlled by the Romans was a triangular area bounded by Tingis and Ad Abilem (Ceuta) on the north and by Sala (Rabat)

[illegible] As Terrasse notes, *ibid.*, p. 48, "Rome ne s'était installée en Afrique que pour garder la tombe de Carthage."

[113] [illegible] *Limes* means the whole defensive system, while *fossatum* refers to an artificial barrier consisting of a ditch and wall. Only slight traces of the *fossatum* were known until recently. These were on the frontier of Tingitana near Fez and to the southwest of the Aurès Mountains in Algeria. Air photography has revealed other sections of considerable length. J. Baradez, *Fossatum Africae: vue-aérienne de l'organisation romaine dans le sud-algérien* (Paris: Arts et Métiers Graphiques, 1949).

[113] [illegible] For evidence of the probable date of this introduction, see M. W. Mikesell, "Notes on the Dispersal of the Dromedary," *Southwestern Jour. Anthro.*, 11 (1955), 231–245, reprinted in *Bull. de l'Institut Français d'Afrique Noire*, Série A, 18 (1956), 895–912.

[113] [illegible] B. H. Warmington, *The North African Provinces from Diocletian to the Vandal Conquest* (Cambridge: Cambridge University Press, 1954).

175 and some point near Fez on the south. After the reform of Diocletian in A.D. 285, Tingitana was attached to the diocese of Betica. This transfer doubtless was made because of the difficulty of communication between Tingitana and the rest of Roman Africa. The road going westward from Carthage ended at Caesarea, where the traveler desirous of proceeding farther was forced to put to sea; and he could find no road nearer than Tingis or Ad Abilem, the points of debarkation.[illegible]

From the standpoint of political geography, the main function of Tingitana was to guard the southern flank of Betica. Volubilis was a city of impressive size, and there must have been extensive colonization in the fertile plains of the Gharb. Nevertheless, when it was no longer easy to control the southern base of the triangle, Volubilis was abandoned, and the southern boundary of Tingitana was withdrawn to the line of Wad Lukkus and Wad Lao. This withdrawal, effected toward the end of the third century, reduced Tingitana to one-tenth of its original size.[illegible]

The part of Morocco that remained under Roman control consisted of little more than the coast opposite Gibraltar and a small part of the Atlantic lowland (fig. 10). The principal settlements were confined to the plains and terraces of the littoral zone. There is no evidence as yet of Roman towns or outposts in the highlands, although there may have been scattered colonies on the Rifian coast.[illegible] In northern Morocco the number of suitable urban sites was and is limited. Tingis, Ad Abilem, Zilis, and Oppidum Novum occupied the same sites as the modern towns of Tangier, Ceuta, Arcila, and Ksar al-Kebir. Tamuda and Lixus were only a few kilometers from modern Tetuán and Larache. The close relationship of ancient and contemporary patterns is revealed also by the alignment of Roman settlements along the routes of the modern roads (fig. 11).

The principal functions of the Roman towns probably were similar to those of their modern counterparts. Tingis and Ad Abilem were the great ports of Tingitana and the termini of the roads. Tamuda was a focus of land transportation and the head of navigation for the Río Martín.[illegible] Lixus, at the mouth of Wad Lukkus, must have enjoyed a lively trade, for a long stretch of this river was still navigable in the fifteenth century, when the Portuguese arrived.[illegible] Ad Mercuri, Zilis, Tabernae, and Oppidum Novum served as military posts on the road from Tingis to Sala and Volubilis. There is archaeological evidence of other posts on the roads from Tingis to Tamuda and Ad Abilem.[illegible]

Most of the highland zone was evidently beyond the limits of effective Roman control; the colonies on the Mediterranean coast, with the possible exception of Rusaddir, functioned as ports of call and not as trading outlets for the interior.

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175 [illegible] Raymond Roget, *Le Maroc chez les auteurs anciens* (Paris: Les Belles Lettres, 1924), p. 39.

175 [illegible] The causes and consequences of this change are described by Warmington, *The North African Provinces*, pp. 70 ff.; and M. Tarradell, "La crisis del siglo III de J. C. en Marruecos," *Tamuda*, 3 (1955), 75–105.

113 [illegible] For the names of settlements as yet undiscovered, see P. César Morán and G. Guastavino Gallent, *Vías y poblaciones romanas en el norte de Marruecos* (Madrid: Alta Comisaría de España en Marruecos, 1948).

[illegible] For further information on Tamuda, see M. Tarradell, "Las excavaciones de Tamuda de 1949 a 1955," *Tamuda*, 4 (1956), 71–85.

[illegible] T. García Figueras, *Expedición de los Portugueses al Río de Larache y fundación de la fortaleza de "La Graciosa" en el Lukus* (Larache: Instituto General Franco para la Investigación Hispano-Arabe, 1941).

[illegible] For a preliminary report of the excavation of one such post, see M. Tarradell, "El Benian: Castellum Romano entre Tetuán y Tanger," *Tamuda*, 1 (1953), 302–309.

175 Roman territorial organization seems to have been strikingly similar to the pattern of European occupation during the protectorates. Roman influence, like Spanish influence, must have been considerable in the lowlands, but it is unlikely that many of the mountain tribes were subdued. In Roman time, as in recent years, the principal agents of cultural change would have been tribesmen who had served as mercenary soldiers.

The Roman occupation probably did not have an important influence on the racial composition of the Moroccan tribes. There was no large immigration from Italy during the period of conquest, and after the new provinces were occupied a large part of the Roman army was recruited locally. Even in the cities of Proconsular Africa, where Roman influence was strongest, many names found on inscriptions are merely Latin translations of Berber names. Native preponderance in Numidia and Mauritania, where the cities were fewer in number and the proportion of Italian immigrants smaller, must have been even greater. In Roman time, as today, the Rif and Atlas mountains were the areas least affected by foreign influence. Yet it must be remembered that cultural change does not depend on face-to-face relationships. Roman goods and ideas penetrated far beyond the imperial frontiers. The extent of Roman influence in northern Africa is illustrated by the presence of coins and implements of the second and third centuries at the tomb of the Tuareg queen Tin Hanan in the heart of the Sahara. The Romans' concept of defense in depth and their willingness to recruit barbarians facilitated acculturation.

If it is reasonable to suggest that the basic patterns of cereal farming and pastoral life are anterior to Punic influence, and that horticulture was introduced by the Carthaginians, few agricultural innovations can be ascribed to the Romans. Perhaps their greatest contribution was the perfection of dry farming and irrigation. But most of the crops cultivated by the Romans were already known in northern Africa, and it is safe to infer that the date palm was cultivated in that region before the Romans arrived. The Romans probably introduced the dromedary, but the first camels may not have reached northern Morocco until after the Arab invasions.

Roman contributions in metallurgy, architecture, and urban planning are more readily discerned. The *qsar* of the oases, according to Terrasse, retains the outline and often the orientation of the Roman *castrum*, and the *tighremt* with its four towers is nothing but a *castellum* transposed into Berber architecture. The general aspect of the fortified hamlets in southern Morocco suggests Egyptian or east African influence, but Terrasse is probably correct when he assumes that many of the details of the *qsar* represent ancient attempts to emulate Roman style.

It is not known when Christianity came to Morocco, but this faith apparently

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175 For evidence in support of this point, see Warmington, *The North African Provinces*, pp. 69–75, cited in note 33.

•113 For evidence of the extent of Roman penetration, see Sir Mortimer Wheeler, *Rome Beyond the Imperial-Frontiers* (Harmondsworth and Baltimore: Penguin Books, 1955).

E.-F. Gautier, "The Monument of Tin Hanan in the Ahaggar," *Geog. Rev.*, 24 (1934), 439–443.

This inference is supported by Herodotus' reference (*History*, IV, 183) to "palms of the fruitful kind" in the Fezzan.

Terrasse, *op. cit.*, I, 70 ff., cited in note 20

175 persisted long after the termination of Roman control. At Volubilis, epitaphs dated A.D. 599, 605, and 655 prove the survival of Latin and Christian order up to the eve of the Muslim invasion.[45] The extent of Christian expansion beyond the *limes* is difficult to trace, but the rapid expansion of Islam, which raced ahead of most of the Arab innovations, suggests that Christianity may have spread beyond the Roman military and economic frontiers. Arabic writers point to the presence in the eighth century of a Christian community at the foot of the High Atlas,[46] and several tribes in the mountains of northern Morocco still retain notions of Christian ancestry.[47] Most of the Berber tribes still use the Julian almanac, and the Latin names for the months have passed with but slight changes into the Berber tongues; these facts suggest Christian influence, for the association of religion and agriculture is a fundamental aspect of Berber culture. Unconsciously, Moroccans still associate Christianity with Rome, for in Maghribi Arabic the term usually applied to an infidel is "Roumi" (Roman).

In A.D. 429 what was left of Roman authority in northern Africa was challenged by the Vandals. The route of their invasion is unknown. Procopius says only that they "crossed the strait at Gadira (Cádiz) and came to Libya."[48] Some scholars believe that the army was transferred by sea as far as the site of modern Algiers;[49] others trace the invasion through the Taza corridor.[50] In any event, a year after their departure from Spain the Vandals were besieging Hippone (Bone), and within ten years they were masters of Carthage. Once victorious, the Vandals limited their activity to Proconsular Africa, roughly northern Tunisia. Except for occasional contacts during the conquest, it is unlikely that they exerted any influence on the Berber tribes. As Coon remarks, "the popular theory of a Vandal origin of blondism in north Africa is historically unsupportable."[51]

In A.D. 533 a Byzantine army landed on the Syrtic coast. It soon disposed of the Vandals, and within three months the Byzantine commander reported that Africa was "Roman" again. Tangier and Ceuta became Byzantine outposts, but their only function was to guard the Strait of Gibraltar. Little is known of Moroccan history during the half century that remained before the beginning of the Arab invasion. During this interval the Visigoths crossed over from Spain and took possession of Ceuta and part of Ghmara, but their influence probably did not extend beyond the coast.[52]

ARABIZATION

Forays into Cyrenaica and Tripolitania followed soon after the Muslim conquest of Egypt in 640. The conquest of Barbary began thirty years later when Uqbah ibn-Nafi invaded Tunisia, founded Qayrawan, and undertook an expedition toward the west. This expedition had no durable result. Later, when the Byzantines had

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[45] The evidence of Christian survival is examined in Warmington, *The North African Provinces*, pp. 76 ff.

[46] Terrasse, *Histoire du Maroc*, I, 64.

[47] This tradition seems to be especially strong among the tribes of Sanhaja as-Srair. See Coon, "Tribes of the Rif," pp. 16 ff., cited in note 4.

[48] Procopius, *De Bello Vandalico*, III, 3.

[49] B. J. Kidd, *A History of the Church to A. D. 461* (Oxford: Clarendon Press, 1922), III, 344.

[50] C. Courtois, *Les Vandales et l'Afrique* (Paris: Arts et Métiers Graphiques, 1955).

[51] Coon, "Tribes of the Rif," p. 26.

[52] Ibn Khaldun comments on the Visigoths, but does not mention the Vandals.

175 been eliminated, Berber resistance was broken, and Musa ibn-Nusayr was able, from 703 to 711, to resume the conquest. In Morocco he followed the route of Uqbah, through the Taza corridor, and eventually the Atlantic plains were brought under Umayyad rule. But the progress of Islam was slow. At the end of the eighth century, Christians still lived on the plains, and pagans controlled the highlands.

It is useful to think of Arabization as a process carried forward in three overlapping stages. The first stage was the initial contact between the Arab invaders and the native Christians and pagans. The second stage began with the arrival of Arab bedawin in the eleventh century. During the third stage, from the fifteenth to the seventeenth centuries, Arabization was accelerated by the arrival of Andalusian refugees.

It is unlikely that the first Arabs had much contact with the rural tribes. The men who marched with Uqbah and Musa were soldiers, explorers, and missionaries, not rural colonists looking for new land. Arabic triumphed in each administrative center, but the towns of Morocco remained islands of Arabic language and foreign civilization in a sea of Berber tribes.

The early restriction of Arabic to the cities is not hard to explain. Between city and country in Morocco there is a chasm without counterpart in the Western world. The Moroccan towns did not grow gradually from small beginnings; they were built by decree. The tribesmen living around such artificial creations could not regard them with any feeling of pride. The new cities, like the Roman settlements, reminded them of the master or even of the foe. Prior to the European occupation, all cities were protected by high walls and gates that were closed at night. After the bedawin invasions, Arab tribes were sometimes given land and pasture around the larger cities, with the intention that they would form a defensive ring.

If the cities of northern Africa had remained the only centers of diffusion for Arabic, it probably would not have diffused at all. The most effective teachers were the bedawin, who began to move into northern Africa in the seventh century. This movement was headed by the Bani Hillal and Bani Soleim, who had been ejected from the Syrian desert for plundering pilgrim caravans. About 1050 the caliphs in Cairo, enraged at the disobedience of the Sanhajan emirs in Qayrawan, sought to chastise their rebel vassals by launching the bedawin against them. After having conquered southern Tunisia, these rough and illiterate nomads passed through the Saharan Atlas, spread over the Algerian plateaus, and entered Morocco through the Taza corridor. By the end of the fourteenth century they were camped on the Atlantic littoral.

The bedawin differed profoundly from the aristocratic adventurers who had conquered the country three centuries earlier. They had no desire to propagate religion or to found cities; their task was to find new pastures for their flocks

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175 W. Marçais, "Comment l'Afrique du Nord a été arabisée," *Annales de l'Institut d'Etudes Orientales*, 4 (1938), 1–32; "L'arabisation des campagnes," *ibid*, 14 (1956), 5–17.

113 Ibn Khaldun, *Histoire des berbères et des dynasties musulmanes de l'Afrique septentrionale* (2d ed., Paris: Paul Geuthner, 1925–1934), I, *passim*.

E.-F. Gautier, "Native Life in French North Africa," *Geog. Rev.*, 13 (1923), 27–39.

Robert Montagne, *La Civilisation du désert: nomades d'Orient et d'Afrique* (Paris: Hachette, 1947), pp. 262–264.

For a detailed study of their migrations, see G. Marçais, *Les Arabes en Berbérie du XI^e au XIV^e siècle* (Paris: Leroux, 1913).

175 and new camping grounds. They were numerous enough to compete with the plains-dwelling Berbers for their land, but as bedawin they were unable to dislodge or greatly influence the mountain tribes.

Wherever pastoral Arabs and sedentary Berbers came together, the economic conflict was accompanied by a clash of agrarian democracy with the authoritarian order of pastoral society. The importance of this conflict is suggested by the fact that Arab dialects are confined, even today, to lowland or plateau areas well suited to urbanization and pastoral life. In the highland zones, particularly in the irrigable areas, Berber society was not seriously disturbed. The only important exception to this generalization is the Jbalan sector of northern Morocco, which is well adapted to sedentary life but nevertheless was Arabized at an early date. It must be remembered that Jbala is a passageway between Morocco and Spain, and that many of the troops that took part in the Spanish campaigns were recruited there.[illegible]

The coincidence of Arabic speech and gentle relief should not be viewed as a simple relation of cause and effect. The plains were better suited to bedawin life, and the bedawin were chiefly responsible for the spread of Arabic speech. During most of Moroccan history the areas of gentle relief coincided with the effective limit of the central government (*bilad al-makhzen*). In many areas the advance of governmental control and Qur'anic law favored the adoption of Arabic speech. In contrast, the rugged terrain of the Moroccan mountains helped to maintain Berber independence.

Some writers have asserted that the Berber-speaking tribes were *driven* to the highlands, and that the dominance of Arabic in the lowlands represents displacement rather than assimilation.[illegible] From the time of Uqbah and Musa, the Arabians in the army of conquest and among the colonists must have been comparatively few, limited to those in command and in high office. The number of women accompanying the army and the first immigrants was necessarily small. Disease and fighting took their toll. After the fourth generation the Arabian "blood" would have been greatly diluted by intermarriage with native women. Many if not most of the troops that took part in the Spanish campaigns were Berbers from Jbala, Ghmara, and the Rif. In the opinion of one scholar, the veins of the Caliph Abd al-Rahman III (912–961) contained less than a hundredth part of Arabian blood.[illegible]

The bedawin were more numerous than the first invaders, and moved with their families, but Gautier thinks that they could hardly have numbered more than 200,000, probably less than 2 per cent of the population of northern Africa at that time.[illegible] After centuries of mingling with Berbers in Libya, Tunisia, and Algeria, it is doubtful that the bedawin who reached the Moroccan coastal plains retained more than a nominal amount of Arab blood. Montagne believes that no more than 10 per cent of the Moroccan population can claim to be of Arabian

[TEXT CONTINUED ON PAGE 49]

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175 [illegible] On the Arabization of Jbala, see also A. Bernard and P. Moussard, "Arabophones et berbérophones au Maroc," *Annales de Géographie*, 33 (1924), 267–282.

113 [illegible] Cf. Dupree, "The Non-Arab Ethnic Groups of Libya," p. 33, cited in note 8: "The once-powerful Berbers of North Africa are now principally a marginal, conservative people living in mountain refuge areas, driven there by successive waves of Phoenicians, Greeks, Romans, Arabs, and Europeans."

[illegible] J. Ribera y Tarragó, *Disertaciones y opúsculos* (Madrid: Imprenta de E. Maestre, 1928), I, 12–35, 109–112.

[illegible] E.-F. Gautier, *Le passé de l'Afrique du Nord: les siècles obscurs* (Paris: Payot, 1952), p. 429.

175 descent.[62] The Andalusian Muslims could hardly have displaced any large group of Berbers, for they settled, almost to a man, in cities and towns. It is reasonable to conclude that the Moroccan highlands remained Berber not because they were a place of retreat but because the drift of Arab influence went around the mountains rather than through or over them. The horticultural skills of the highland Berbers and their intricate social organization suggest stability, not the culture of a refugee population driven to new and unfamiliar environments.[63]

The Christian reconquest of Spain, led by Castile and Aragón, began in 1225. Córdoba fell in 1236, and Sevilla in 1249. Soon Spanish Islam was reduced to the small kingdom of Granada, which had accepted Castile as an overlord. In 1492 Granada itself was taken, and Spanish Islam ceased to exist. Even before the conquest of Granada, many Muslims sought refuge in Morocco. These refugees repeopled most of the Moroccan towns, and provided the Saadians with technical experts and soldiers. Northern Morocco became a center of Andalusian civilization. Some families in Tetuán, Shawen, and Fez still retain keys to their ancestral homes in al-Andalus.

The Andalusian refugees brought a richer and more classical form of Arabic speech. Since most of the immigrants settled in towns, the distinction between urban and rural dialects was intensified. This distinction is still strong. The more elegant city speech is spoken not only in Fez (the great center of Andalusian culture) but also in Rabat-Salé (settled by Andalusians in the seventeenth century) and in Tetuán (most of whose inhabitants came from Ronda in the fifteenth and sixteenth centuries). Taza, Ksar al-Kebir, and Azemmour also have somewhat urbanized dialects, while Tangier and Wezzan show the influence of neighboring tribes. Meknès and Marrakech, perhaps the most extreme examples of country speech, are accordingly looked down upon by their bourgeois neighbors. Thus there is, besides the Arab-Berber distinction, a strong contrast even among Moroccans who are Arabized. No one familiar with the sounds and rhythms of Maghribi Arabic could fail to distinguish between the dialect of Old Fez and the quasi-bedawin speech of the rural tribes.[64]

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191 Several of the tribes shown as Berber-speakers in figure 12 are described as Arabophones in previous work. Disagreement arises from the fact that many tribes are bilingual. When questioned about their language preference, many Berbers reply that they speak only Arabic, but if questioned further they will add that their women and children speak Berber, and that boys do not begin to learn Arabic until they are old enough to attend a Qur'anic school. This is the situation among the Aith Seddath, a tribe often described as bilingual or Arabophone.[65] It is important to note whether merchants or the educated members of a tribe use more than one language, but the linguistic attainments of the elite should not be allowed to obscure the basic pattern of domestic speech. The fact that one Rifian in ten speaks some Spanish or Arabic does not mean that the Rif

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[62] Montagne, *La Civilisation du désert*, p. 265, cited in note 56.

[113] [63] René Raynal, in "Quelques aperçus géographiques sur l'évolution des régions humanes du Maroc," *Hespéris*, Archives Berbères et Bulletin de l'Institut des Hautes-Etudes Marocaines, 39 (1952), 1–16, refers to the Berber mountains as "vieilles régions humaines."

[113] [64] G. S. Colin, "L'Arabe," in *Initiation au Maroc* (3d ed., Paris: Editions d'Art et d'Histoire, 1945), pp. 208 ff.

[113] [65] A. Renisio, *Etude sur les dialectes berbères des Beni Iznassen, du Rif et des Senhaja de Srair* (Paris: Leroux, 1932).

R 197 [197] should be described as a bilingual zone. Probably not one Rifian woman in a hundred understands Arabic or Spanish, and few Rifian men speak either language correctly.

In northern Morocco the Berber language is represented by three dialects: Rifian, Sanhajan, and Ghmara. Rifian is by far the most important. It varies somewhat from tribe to tribe, but this variation does not hinder communication. The differences in pronunciation are evident as one moves from the Nkour Valley toward Wad Moulouya, particularly in Ikibdhanen. Rifians can understand the dialect of the Aith Iznasen, but they are obliged to use interpreters when they deal with the Sanhajans. The Ghmaran dialect is nearly extinct. Today it is spoken only in Bani Bu Zra and in a few hamlets of Bani Mansur and Bani Grir. The relationship between Ghmaran and the other dialects is not yet clear, but Ghmaran seems to be a distinct dialect, not a variant of Rifian or Sanhajan.[66] Differences in pronunciation may be considerable, even among speakers of the same dialect. The speech of Ktama and Taghzut, for example, is barely intelligible to the Aith Seddath. The degree of difference between Rifian and Sanhajan is probably as great as that between Spanish and Italian. Nevertheless, philologists prefer to recognize only one Berber language, and attribute differences of this magnitude to isolation and the absence of literature.[67]

Berber speech has completely disappeared from the area west of Bani Siyyat, Bani Silman, and Bani Khalid. The progress of Arabization was more rapid in the interior than along the Mediterranean coast. Even today the route from Tetuán to Melilla follows the ridges of the Rifian chain, whereas no road follows the coast east of Wad Lao. The Ghmaran dialect is preserved in an area crossed by deep canyons, and bounded by high mountains and the inhospitable Mediterranean coast. S [197] In Sanhaja as-Srair most of the Arabophones occupy land south of the mountain chain. The Bani Bu Shibat and Bani Hmid find it much easier to visit the markets of Marnisa, where Arabic is spoken, than to climb the mountains to reach the main area of Sanhajan speech. In the eastern part of the Rif, Arabic is spoken only along the Moulouya Valley, the route of advance for bedawin tribes moving northward from the Algerian plateaus. The Ulad Stut not only speak Arabic but are of Arabian (i.e., bedawin) descent.[68] This claim can also be made by the Khlut, who moved into the Atlantic lowland during the fourteenth century.[69]

R [175] The first to abandon Berber (or Latin) speech were the peoples of the Tingitanian peninsula and the plains near Fez. After the collapse of Muslim Spain the same areas became havens for Andalusian refugees. From these two centers Arabic speech and Islamic culture gradually moved into the highlands. This movement is still in progress. In fact, Moroccan independence will cause an acceleration, for the language of the Prophet now has political as well as religious sanction. S 197 The Ghmaran dialect will become extinct in a generation, and in another generation or two the Sanhajan dialect may also disappear. R [197] In Ktama, Sanhajan speech is retained only in the inaccessible valley of Abd al-Ghaya, between Adrar

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[66] G. S. Colin, "Le parler berbère des Gmara," *Hespéris*, 9 (1929), 43–58.

[67] Basset, *op. cit.*, in note 9.

[68] Marçais, *op. cit.*, in note 57.

[69] According to D. M. Hart (personal communication), only 9 out of 171 place and lineage names in the Khlut area are indisputably Berber.

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175 sive pilgrimages to the tombs of both Mulai Idris and Mulai Abd al-Salam are
779 equal to one to Mecca.[71] The fast of Ramadan is strictly observed even in the
[788] remote highlands, but many Berbers are extremely casual about prayer, and
[782] the idea of almsgiving, in the sense of an income or head tax, was never accepted
[735] by free tribes. On the other hand, most tribes promptly accepted the Qur'anic
[651] distinction between what is *halal* (clean, or permitted) and *haram* (unclean, or
[783] forbidden). Thus carnivorous animals and birds of prey were excluded as food,
[262] and also eels and mackerel, since they were supposed to be unclean feeders. Consumption of wine ceased, although vineyards are still numerous and raisins are an important food. A generation ago the Berbers probably hunted the wild boar and may even have kept domestic pigs, but there is evidence that the latter practice continues.[72]

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241 There is nothing blind or unreasonable about Berber conservatism. Once the value of an innovation has been established, it is accepted without reservation. Berber agriculture today is a blend of crops and methods derived from diverse contacts during millennia. Some of the contributions of the Arabs are easy to discern; others are not. The Romans and Phoenicians both contributed to North African skill in irrigation, but the Arabs added refinements in technique.[73] It is not known whether the Arabs or the Romans introduced the Persian system of underground infiltration tunnels (*foggara*), but the Arabs seem to have brought this system to Spain.[74] It cannot be asserted that the Arabs introduced the date palm, for there is reason to believe that palms were cultivated in the Fezzan in classical time.[75] The Latin name for the pomegranate, *Malum punicum* (apple of Carthage), suggests that it was cultivated in northern Africa long before the Arabs arrived. Barley and wheat, the basic cereals, were cultivated before the arrival of the Phoenicians. The Arabs may have been responsible for the introduction of hard wheat (*Triticum durum*), which is still used for semolina. *Triticum dicoccum* has been found in the Roman ruins of Timgad and Djemila.[76] The ubiquitous wheat at present is *T. aestivum*. The initial dispersal of rye seems to have been as a weed in wheat fields, and it was probably carried to northern Africa by the Phoenicians or the Romans. Sorghum was cultivated in eastern and west-central Africa in Neolithic time. The races of sorghum now cultivated in Morocco (*Sorghum vulgare ssp. dura* and *ssp. cernuum*) presumably originated in Egypt or the Upper Nile; it is not known when they arrived in Barbary. The introduction of barley may have taken place in prehistoric time, perhaps when the Berbers themselves arrived. The Arabs may have been responsible for new dispersals of the dromedary (which had been brought to Tunisia by the Romans), but the other domestic animals were known throughout northern Africa in Neolithic time.

Thus the basic elements of north African agriculture were already present

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[113] [71] D. M. Hart, "An Imarah in the Central Rif: The Annual Pilgrimage to Sidi Bu Khiyar," *Tamuda*, 4 (1957), 239–245.

[72] Coon, "Tribes of the Rif," p. 41, cited in note 4.

[73] The Spanish word for "irrigation ditch," *acequia*, shows little change from the Arabic *al-saqiyah*.

[113] [74] G. B. Cressey, "Qanats, Karez, and Foggaras," *Geog. Rev.*, 48 (1958), 27–44.

[113] [75] Herodotus, *History*, IV, 183. See also Aug. Chevalier, "Les productions végétales du Sahara," *Revue de Botanique Appliquée et d'Agriculture Tropicale*, 12 (1932), 711 ff.

[113] [76] André Haudricourt and Louis Hedin, *L'Homme et les plantes cultivées* (4th ed., Paris: Gallimard, 1943), p. 115.

175 when the Arabs arrived. But the Arabs introduced a number of additional crops:
177 rice (Sp. *arroz;* Ar. *al-aruzz*), the apricot (Sp. *albaricoque;* Ar. *al-barquq*), and
241 cotton (Old Sp. *coton;* Ar. *al-qutn*).[77] The Arabs brought the bitter or Seville orange, but the sweet or common orange was introduced by the Portuguese from India.[78] The Arabs also brought the artichoke (from the eastern Mediterranean), spinach (from Persia), sugar cane (probably from India), the mulberry (originally from China), pepper, ginger, saffron, and parsley. Hemp (*Cannabis sativa*), the great cash crop of the Sanhajan highlands and the object of a lively contraband trade between Spanish and French Morocco, may also have been carried to Barbary by the Arabs. In an indirect sense the Arabs may be credited with the introduction of a number of New World plants, for many of the Spanish Muslims did not leave al-Andalus until after the final order of expulsion in 1609. By that time Europeans were familiar with the agave, opuntia, tomato, and the great American crop combination of maize, beans, and squash.

MOROCCAN JEWS

175 Of the Hebrew people in Morocco, the largest and most prosperous group are the
563 Sephardic Jews who were driven out of Spain after the reconquest of Andalusia. A second, quite different group was already settled in the country when their co-religionists arrived.

The Arab chroniclers state that Jews were in Morocco at the time of the first Muslim invasion. They may have arrived with the Phoenicians or the Romans, for Hebrew scholars believe that some of their religious practices are pre-Talmudic.[79]
563 Today most of the original Jews inhabit ghettos (*mellah*)[80] in the cities, but a few are scattered among the rural tribes. The latter usually pay tribute to the tribesmen with whom they live. Many are caravan men who travel with mule and donkey trains into the less accessible parts of the country. Others are tinkers and petty traders, while many of the prosperous urban Jews are moneylenders, jewelers, and tailors. A small but interesting group cultivates small plots in the High Atlas, and speaks Berber domestically. These "Berber" Jews, like the peasant Jews of Yemen, the Jewish highlanders of the Caucasus, the Falasha of Ethiopia, and the Turkish-speaking Jews of the Crimea, present a difficult problem for historical research.[81] They may be descendants of ancient immigrants, but it seems more likely that they are descendants of indigenous peoples who were converted to Judaism at some remote time.

175 When the Sephardim arrived in Morocco they negotiated an ordinance as to
563 their status, which also contained rules laid down for the guidance of their own conduct, no doubt out of fear that contact with the more primitive Moroccan Jews might compromise their tenets. The Sephardim had already abandoned

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(113) [77] Names from P. K. Hitti, *History of the Arabs* (New York: The Macmillan Co., 1951), p. 528.

[78] "Orange" comes from the Spanish *naranja* through the Arabic *naranj* and the Persian *narang*. "Lemon" is the Arabic *laymum* and the Persian *limun*. *Ibid.*, p. 351.

(113) [79] For clarification of this point, see Hahum Slouschz, *Hebraeo-phéniciens et Judeo-berbères* (Paris: Leroux, 1908); and André Chouraqui, *Les Juifs d'Afrique du Nord* (Paris: Presses Universitaires de France, 1952).

[80] *Mellah* is the Arabic word for "salt." The usual explanation for this association is that Jews were once assigned the task of preserving the heads of the sultan's enemies so that they could be put on display.

(113) [81] A. J. Toynbee, *A Study of History* (London: Oxford University Press, 1934), II, 257, 402–412.

175 polygamy, which is still practiced by some of the native Jews. Keen businessmen,
563 organizers of remarkable ability, and excellent linguists, the Sephardim played an important role as middlemen in the initial contacts between Europeans and Moroccans. European protection brought a distinct improvement in their social and economic status. They were particularly active in banking, since the Qur'an enjoins believers from engaging in usury. In Tangier, Jewish bankers attained remarkable privilege and affluence. On the other hand, none of the Moroccan Jews enjoyed true citizenship, and in the days before European protection they were subject to Qur'anic law, which does not recognize the oath of a Jew.

As a consequence of European protection, the Sephardim became more Spanish or French than Moroccan. Differences in dress and speech still distinguish this group from the older and more backward Jews. Only the more conservative Jews cling to the traditional black skullcap. The Sephardim use Maghribi Arabic for commercial purposes, but prefer to speak Spanish or French among themselves. The original Jews speak Berber or Arabic, depending upon the location of their homes and the circumstances of their livelihood. Among them, as among the Sephardim, Hebrew is only a ritual language. Neither the Sephardim nor the more conservative group is prominent in the rural districts of the northern zone.
[162] The latest census of Spanish Morocco lists 8,062 Jews, of whom only 180 are described as rural.[illegible]

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(113) [illegible] *Anuario estadístico, 1952–53* (Madrid: Instituto Nacional de Estadística, 1955), p. 40.

CHAPTER IV

EUROPEAN INTERVENTION

175 ATTEMPTS to gain control of the Moroccan littoral began in the fifteenth century, at the dawn of the great age of European expansion. The first expeditions to the Moroccan shores were Spanish, but later, as a result of treaties between the two nations, the coast to the west of Peñon de Vélez was reserved for the Portuguese.

PORTUGUESE ACTIVITY

At a time when their ships were skirting the coasts of Africa, the Portuguese would naturally be tempted to set foot in a country so near.[1] During the fifteenth century they established forts at Ceuta (1415), Ksar as-Srair (1458), and Arcila and Tangier (1471); but the strong resistance of the Jbalan tribesmen made it impossible for them to move inland. So they made their greatest effort farther south, on the Atlantic coast. In 1469 a fortress—which came to be known as Casa Branca (whence the modern Casablanca)—was built at Anafe. In 1489 the Portuguese established the fort of Graciosa on the banks of Wad Lukkus, and in 1505 built the fortress of Santa Cruz de Aguer (Agadir). Castello Real (Mogador) was founded in 1506, and two years later another stronghold was established at Safi. In 1513 and 1514 Azemmour and Mazagão (Mazagan) were fortified. By the middle of the sixteenth century the Portuguese controlled a long strip of the Atlantic coast, and had made raids as far as Marrakech.

The Portuguese occupation, however, was threatened in 1541, when the Moroccans captured Santa Cruz. The Portuguese abandoned Safi, Azémmour, and Ksar as-Srair soon thereafter, and in 1580 evacuated Arcila. At the turn of the century they retained only Mazagan, Tangier, and Ceuta. The brevity of their occupation can be attributed to the restricted nature of their operations and the hostility of the Moroccans. The Portuguese, like the Carthaginians (but unlike the Romans), made no attempt to establish a system of defense in depth.[2] Even before the Moroccan counterattacks, Portuguese settlement was confined to the littoral zone (fig. 13). The disastrous defeat of the Portuguese at Ksar al-Kebir in 1578 marked the downfall of the last crusade of Mediterranean Christianity, and the beginning of a Moroccan recovery consolidated by ransom money and then by victories in the Sudan.[3] For a time Morocco seemed to be a great power, and the countries of western Europe were reluctant to plan new aggressions. The net effect of the Portuguese adventure was to raise still higher the wall between Europe and Barbary. The Moroccans, previously at war among themselves, united to repel the infidels. The consequence of this struggle was that no enduring economic or social contact could be made between Moroccans and Europeans. Morocco with-

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175 •113 [1] The motives of the Portuguese adventure are considered by Marcel Bataillon, "Le rêve de la conquête de Fès et le sentiment impérial portugais au XVI^{e} siècle," in *Mélanges d'études luso-marocaines dédiées à la mémoire de David Lopes et Pierre de Cenival* (Lisbon: Portugalia Editora, 1945).

[2] For an interesting study of Portuguese defenses, see A. L. Guevara, *Arcila durante la ocupación portuguesa (1471–1549)* (Tangier: Instituto General Franco para la Investigación Hispano-Arabe, 1940).

[3] On the causes and consequences of the battle, see E. W. Bovill, *The Battle of Alcazar* (London: Batchworth Press, 1952).

175 became involved in more important adventures in the New World, and the Ottoman Turks, then in the midst of their last burst of offensive power, captured the presidios east of Oran. The Spanish never relinquished control of their outposts on the Moroccan coast. Melilla, annexed in 1471, and Ceuta, ceded by Portugal in 1668, are still governed as integral parts of Spain (*plazas de soberanía*).[4]

From the sixteenth to the twentieth century, the Spanish garrisons were under siege.[5] The positions held by the Spanish show an abiding concern for defense. Ceuta and Melilla are on rocky promontories forming natural strongholds. Peñón de Vélez and Peñón de Alhucemas are rocky islets, easy to defend but poor positions from which to launch an attack.[6] At the beginning of the present century the garrisons of the two islets were forced to obtain food and drinking water from Málaga.[7] During the nineteenth century the Spanish made several efforts to enlarge their holdings, but none had enduring success. In 1859 it took an army of Spaniards six months to reach Tetuán from nearby Ceuta.[8] The siege of Melilla was not broken until 1909. Seven years after the proclamation of Spanish protection, it was not safe to travel from Tetuán to Tangier. Shawen remained closed to infidels until 1920. Ifni, ceded to Spain in 1860, was not permanently occupied until 1934.

Partition and "Pacification"

The secret Franco-Spanish agreement of 1904, the Algeciras agreement of 1906, and the Franco-Moroccan treaty of 1912 divided Morocco into areas of French and of Spanish custody,[9] but neither power was able to exercise complete control of its zone. In French Morocco early occupation was restricted to the most accessible regions—the Moroccan continuation of the Algerian steppe, and the Atlantic coastal plains. In 1914 the Taza corridor was occupied, and tracks were laid for a railroad to link Morocco with Algeria and Tunisia. But the First World War curtailed French activity, and at the end of the war French control was still restricted to the eastern plateaus and the Atlantic coastal plains.[10] Occupation of the High Atlas and the pre-Saharan zone was not completed until 1934, and within six years of that date French authority in Morocco was seriously compromised by the German conquest of the motherland. Order was reëstablished after the war, but a new and final rebellion began in 1955, when most of the Rif and Atlas mountains were again described as "zones of insecurity."

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[4] Ceuta is administered as a part of Cádiz province, while Melilla is controlled from Málaga. During the protectorate both cities were separated from Spanish Morocco by customs barriers. Peñón de Vélez, Peñón de Alhucemas, and the Chafarinas are also governed as integral parts of Spain.

[5] For an account of one siege of Melilla, see F. Sebastián de Miranda, *El sitio de Melilla de* 175 *1774 a 1775* (Tangier: Instituto General Franco para la Investigación Hispano-Arabe, 1939).

113 [6] The standard history of the two islets is by Rafael Pezzi, *Los presidios menores de Africa y la influencia española en el Rif* (Madrid: Establecimiento Tipográfico Fortanet, 1893). See also D. Bacaicoa Arnaiz, "El Peñón de Vélez de la Gomera en 1791," *Tamuda*, 3 (1955), 197–230.

[7] *Instructions nautiques sur le Maroc, l'Algérie et la Tunisie*, Service Hydrographique de la Marine, Publ. 801 (Paris: Imprimerie Nationale, 1899), pp. 53, 58.

[8] W. B. Harris and W. Cozens-Hardy, *Modern Morocco: A Report on Trade Prospects, with Some Geographical and Historical Notes* (London: Bank of British West Africa, 1919), p. 28.

[9] The different delimitations of the two protectorates are shown in *Atlas histórico y geográfico de Africa española* (Madrid: Dirección General de Marruecos y Colonias and Instituto de Estudios Africanos, 1955). See also George F. Deasy, "Spanish Territorial Boundary Changes in Northwest Africa," *Geog. Rev.*, 32 (1942), 303–306.

[10] *Carte des étapes de l'occupation française* (Rabat: Institut Géographique National, Annexe du Maroc, 1934).

175 The Spanish experienced even greater difficulty in their zone. The area between Wad Moulouya and Wad Kert was occupied in 1919, ten years after the siege had been lifted at Melilla. But at this time the Rifian highlands were still under tribal rule and most of Jbala was controlled by the brigand Raisuli.[11] When it (648) seemed that the Spanish would at last be able to begin large-scale offensive action, they were defeated by the Rifian forces of Abd al-Krim.[12] Thanks to French intervention, the Rifian rebellion was suppressed in 1926, but the impoverished Spaniards were unable to bring their protectorate under effective control. The northern zone was completely neglected during the Spanish Civil War (1936–1939). Efforts to organize and develop the zone began in earnest only after the end of the Second World War, and these efforts were frustrated when Morocco regained its freedom in 1956.

These remarks are necessary to provide a proper focus for any image evoked by the expressions "French" or "Spanish" Morocco. Yet economic and cultural influence do not depend upon military occupation and the exercise of formal power. A decade before the Spanish gained control of Jbala, tribesmen of this province were wearing undergarments and waistcoats made of cotton spun at Manchester and Roubaix. When Sidi Muhammad ben Abdullah founded Mogador in 1765, he hoped that the new town would serve as a center for European traders and consuls. At the beginning of the twentieth century, eight ports—Tetuán (Río Martín), Tangier, Larache, Salé, Casablanca, Mazagan, Mogador, and Agadir—were open to foreign trade, and each received commodities destined to become important in Moroccan life. Tea, the foundation of Moroccan hospitality, was introduced by the English in the eighteenth century.[13] Tobacco came later, also as an article of European trade.[14] Spanish currency was widely circulated long before the Spanish themselves gained power. In his account of Peñón de Vélez, Leo Africanus relates that "Venetian galleys used to resort unto this isle, and to exchange their wares for the wares of the inhabitants, and sometimes to buy for ready cash."[15] Perhaps the best indication of the extent of European influence in northern Africa is the use by native peoples of a large number of European words.[16] The technical vocabulary of the fishermen on the Tunisian coast includes terms derived from Spanish, Catalan, various Italian dialects, and Maltese.[17]

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175 [11] On Spain's difficulties with Raisuli, see W. B. Harris, *Morocco That Was* (Edinburgh and London: Blackwood and Sons, 1921).

113 [12] The Rifian uprising became a major revolutionary war on July 21–22, 1921, when a large force under General Silvestre was defeated at Anual. For a full account of the war, see W. B. Harris, *France, Spain and the Rif* (London: Edward Arnold, 1927).

[13] A. Leriche, "De l'origine du thé au Maroc et au Sahara," *Bull. de l'Institut Français d'Afrique Noire*, Série A, 15 (1952), 731–735; J.-L. Miège, "Origine et développement de la consommation du thé au Maroc," *Bull. Economique et Social du Maroc*, 71 (1956), 377–398.

[14] Berthold Laufer *et al.*, "Tobacco and Its Use in Africa," *Field Mus. Nat. Hist., Anthro. Leaflets*, 29 (1930).

[15] Leo Africanus, *The History and Description of Africa* (London: Hakluyt Society, 1896), II, 519.

[16] Muhammad ibn Azzuz Hakim, *Glosario de mil quinientas voces españolas usadas entre los Marroquíes en el arabe vulgar* (Madrid: Instituto de Estudios Africanos, 1933); Mohammed Hadj-Sadok, "Dialectes arabes et francisation linguistique de l'Algérie," *Annales de l'Institut d'Etudes Orientales*, 13 (1955), 61–97.

[17] A. Gateau, "Introduction à l'étude du vocabulaire maritime en Tunisie," *Rev. Africaine*, 87 (1946), 140–183.

SPANISH MOROCCO CIRCA 1955

000 Figure 14 gives some indication of the distribution of Spaniards and the material results of their efforts to control and exploit the northern zone. Settlements, mines, and roads were concentrated in the eastern and western extremities of the zone, and there is meager evidence of Spanish enterprise in the central highlands. Only a small area was used for commercial agriculture.

The overwhelming majority of the Spanish population was concentrated in cities and towns (table 2)A. In 1950 only 5,000 Spaniards out of a total of 85,000 for the protectorate lived in rural areas. Indeed, one Spaniard in three lived in Tetuán, and the Spanish population of Tangier (30,000), Ceuta (50,000), and Melilla (70,000) was nearly twice as large as that of the protectorate as a whole.[18] Spaniards outnumbered Muslims only in Alhucemas and Castillejos.[19] This fact suggests that Spanish settlement was confined mainly to the established urban centers, and that little effort was made to found new towns.

As the data in table 3B indicate, only five or six of the towns that were founded by the Spaniards could have exerted marked influence on the surrounding countryside. In fact, Targist and Alhucemas were the only new towns to exert such influence, for Rincón was an army post, and Segangan, Castillejos, and Río Martín were mere adjuncts of Melilla, Ceuta, and Tetuán. In each urban center, Spanish and Muslim communities were in direct contact, but the traditional schism between town and country checked the extension of Spanish influence just as earlier it had retarded Arabization.

Spanish officials made no effort to encourage colonization by their countrymen, and the Spaniards who did emigrate were not allowed to compete with the Moroccans as manual laborers. Rural colonization was discouraged. In the last year of the protectorate, commercial agriculture was concentrated in the valley of Wad Lukkus, where the Compañía Agrícola del Lukkus had about 15,000 hectares of land under cultivation. Minor developments, with irrigation, had also been undertaken in the plains around Nador and Zaio, and in the deltas of Río Martín, Wad Lao, and Wad Nkour.[20] But, as figure 14 indicates, the acreage allotted to commercial agriculture was only a small part of the zone.

It would have been difficult for the Spaniards to expand their operations, for there are few plains in northern Morocco, and the Mediterranean streams are short and have extremely variable flow. The Wad Lao dam has an irrigation potential of 15,000 to 20,000 hectares, but the flood plain of the stream amounts to only 2,000 hectares. The Spanish policy was to concentrate on development of hydroelectric power. The Wad Lao project will eventually provide power for Tetuán, Ceuta, Larache, and Ksar al-Kebir, cities that are now dependent on

[TEXT CONTINUED ON PAGE 61]

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[113] [18] The figure given for Tangier is an estimate by the Spanish consulate. The source of the other figures is the *Resumen estadístico de Africa española* (Madrid: Dirección General de Marruecos y Colonias and Instituto de Estudios Africanos, 1954).

[19] I use the past tense because the Spanish population of many of these towns decreased substantially after the termination of the protectorate in 1956. There are probably no more than a dozen Spaniards still living in Targist, and there may no longer be any Spaniards in Puerto Capaz (now called al-Jabha).

[113] [20] On irrigation see J. Karst, "Les aménagements hydrauliques des provinces du nord du Maroc," *Bull. Economique et Social du Maroc*, 73 (1957), 5–11; and J. M. Houston, "The Significance of Irrigation in Morocco's Economic Development," *Geog. Jour.* 120 (1954), 314–328.

A, B, [See p. 61--Analyst]

000 thermal power. The joint Spanish-French Moulouya scheme has the same major objective, although some of the water impounded by the two dams will be used for irrigation.[n]

TABLE 2

URBAN POPULATION, 1950

	Spaniards	Muslims
Tetuán	29,232	47,182
Larache	12,409	28,166
Nador	8,506	13,313
Alhucemas	7,148	3,541
Castillejos	4,199	569
Ksar al-Kebir	3,350	27,056
Arcila	2,554	10,752
Shawen	2,446	11,099
Targist	1,035	1,965
Totals	70,879	143,652

SOURCE: *Resumen estadístico de Africa española* (Madrid, 1954).

TABLE 3

POPULATION OF TOWNS FOUNDED BY THE SPANISH, 1950

	Spaniards	Muslims
Alhucemas	7,148	3,541
Castillejos	4,199	569
Río Martín	1,840	2,013
Segangan	1,128	911
Targist	1,035	1,965
Rincón	973	966
Monte Arruit	485	289
Zaio	320	112
Zeluán	194	225
Puerto Capaz	114	604
Totals	17,438	11,195

SOURCE: See table 2.

At least 70 per cent of the large trade deficit of Spanish Morocco was made up of food imports. Cotton and hemp (*Cannabis sativa*), the main cash crops, were consumed within the zone. Citrus fruit, melons, pimento, lumber, cork, and palmetto fiber were shipped abroad, but all of these exports probably did not pay for the large imports of breadstuff, sugar, and tea. In most of northern Morocco little could have been done in agricultural development even if Spain had been more adequately endowed, for the mountain tribes learned centuries ago how to grow the maximum amount of food on tiny terraces, and the small size of their fields discouraged mechanization.

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[113] [n] This project began in 1946. The first dam, Mechra Homadi, was completed in 1956 and the second, Mechra Klila, in 1960. J. Karst, "L'équipement des travaux publics dans les provinces du nord," *Bull. Economique et Social du Maroc*, 78 (1958), 211–224.

OOO weeks by snow. In the final year of Spanish occupation, snow-clearing equipment was limited to a single jeep with a crude wooden plow.

In 1955 the road network consisted of a main east-west route and a number of short tributary routes. During the dry season even the poorer tracks were used by market buses and trucks. Many of the tributary routes were constructed for logging, and a few were built for the collection of cork and walnuts. An intrepid driver could reach many highland valleys. It was even possible to drive from Targist over the Sanhajan mountains to French Morocco. However, many of the logging roads were used for only a few years, and in time abandoned tracks were plowed and converted to barley or wheat. Perhaps the most interesting gap in the Spanish road system was the lack of a through route along the Mediterranean coast.[illegible] The coastal zone between Wad Lao and Puerto Capaz was and is one of the least accessible sections of the Mediterranean littoral.

Spanish efforts to improve port facilities were at best halfhearted. Larache is protected by a 475-meter breakwater, but the entrance to the harbor requires constant dredging, and this effort often lagged behind the accumulation of sand. The mouth of Río Martín might have served as a port for Tetuán, but the Spanish were unable to stabilize the channel. The port of Alhucemas offers sheltered anchorage for ships of ten meters' draught, but is isolated from any productive hinterland by the barrier of the Rif chain. Sebkha Bu Areg (Mar Chica), a lagoon of 115 square kilometers, might have served as a harbor for the eastern plains, but no effort was made to dredge channels or to stabilize the entrance through the bar. At present the port of Nador can be used only by ships of less than three meters' draught. It is indicative of the poverty of Spanish enterprise that Peñón de Vélez, one of the few sheltered coves on the Rifian coast, was never linked to any road.[illegible]

Iron, lead, and copper probably were mined in northern Morocco in Roman time. The Spaniards were interested in the antimony and copper deposits near Ceuta as early as the fourteenth century. During the protectorate at least a hundred deposits were registered, but actual exploitation was limited to the few deposits shown on the map (fig. 14). Numerous mining permits were issued, but many of these were granted to small operators with modest equipment and meager funds.[illegible] The cement works at Tetuán and the iron mines near Melilla were the only operations that employed a large number of Moroccans. The Compañía Española de Minas del Rif mined rich deposits of hematite and magnetite, which were carried to Melilla by a narrow-gauge railroad, but this was the only operation of relatively large scale. Many of the mines were worked only intermittently, and few employed more than a handful of miners. The meagerness of extractive industry is surprising, for interest in mineral resources was one of the motivations of the Spanish occupation.

Spanish industrial activity also was on a small scale. Tetuán had cement works,

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[illegible] Besides the daily service between Ceuta and Algeciras and between Melilla and Málaga, the Compañía Transmediterranea operated a small steamer that made weekly voyages from Ceuta to Melilla, with landings at Puerto Capaz and Alhucemas.

[113] [illegible] On the ports of northern Morocco, see J. Ochoa y Benjumea, "Los puertos de Marruecos," *Anales de la Asociación Española para el Progreso de las Ciencias*, 10 (1945); and H. Surleau, "L'économie des ports marocaines," *Bull. Economique et Social du Maroc*, 75 (1957), 289–304.

[113] [illegible] J. Agard, "Les gîtes minéraux et l'industrie minière de la zone nord du Maroc," *Notes Marocaines*, 9–10 (1957), 13–22.

000 and a number of small factories made soap, shoes, dyes, furniture, matches, paper, and glass. A paper mill, using alfa grass from the eastern Rif, was established at Tetuán. Sawmills, using cedar, fir, and oak, were maintained at Tetuán and Targist, and at several places in the central highlands. Larache had fruit-packing and fish-canning plants. But none of these activities made a substantial contribution to Spanish or Moroccan economy.[illegible]

One is again struck by the contrast between the Spanish and the French zone. In the French zone Europeans traveled into all parts of the country to seek out resources. By the last year of the protectorate there were ostrich farms, mule-breeding centers, nurseries for fruit trees, agricultural experiment stations, large areas of mechanized farming, hydroelectric plants, and numerous mines. The larger cities had light industrial establishments, including printing plants, breweries, and smaller factories producing soap, bricks, and glassware. In 1955 Europeans controlled about 80 per cent of the managerial and directive positions.[illegible] Moreover, Europeans were not restricted to business, civil service, professions, and minor service functions. A large number of Europeans, particularly in Casablanca, were skilled and semiskilled laborers, and many of the latter were Spaniards, Italians, and Maltese. Indeed, French Morocco differed from the Spanish zone not only in its higher degree of economic development but also in the presence of large numbers of relatively poor and unskilled Europeans.

It would be idle to speculate on whether the meager development of Spanish Morocco reflects reluctance to interfere in native affairs (as Spanish authors claim), incompetence (as some French authors claim), or shortage of capital. Doubtless all three factors were present. For the detached observer, the interesting question is why Spain so ardently desired this zone. Spanish Morocco was clearly a deficit investment. From first to last, the Spanish zone had little value except as a contribution to national prestige. Spanish pride had suffered from the great defeats in the New World. It was imperative for national honor, if for no other reason, that Spain's remaining possessions be retained and strengthened. The sentimental value of the protectorate is impressed upon any reader of literature on "Spanish Africa." It is significant that the Spanish colonial office published a substantial atlas on the eve of Moroccan independence.[illegible] In sponsoring works of this sort, Spanish officials were expressing that "colonial melancholy" which characterizes the spirit of western Europe as a whole.

● 113 [illegible] On industry in the northern zone, see T. García Figueras and R. de Roda Jiménez, *Economía social de Marruecos* (Madrid: Instituto de Estudios Africanos, 1950–1955), III, 223–253.

[illegible] Nevill Barbour, ed., *A Survey of North West Africa (the Maghrib)* (London and New York: Oxford University Press, 1959), pp. 126–130.

[illegible] *Atlas histórico y geográfico de Africa española*, cited in note 9.

000 now have electricity and plumbing, but functional organization and morphology remain very much as they were before the European occupation.[3]

The narrow alleys, noisy bazaars, and dark corners of the Muslim cities contrast sharply with the bright and spacious arrangement of the European settlements (pl. 7, *a*). The former are always surrounded by walls, and other walls divide the urban area into wards. There is usually a large open space near one of the principal gates, serving as a market place. Here country people come to expose their wares and to exchange farm surplus for articles offered by merchants from the city. The more sophisticated cities occupied by descendants of Andalusian refugees (e.g., Tetuán, Wezzan, Fez) are divided into economic quarters, but most cities maintain an ethnic or tribal division, and each ward has its own crafts and trades.

Producers or retailers of the same kinds of goods usually occupy adjacent stalls, and each trade is likely to have a lane to itself. Carpenters, leather merchants and the makers of slippers, smiths and the producers of copper utensils, all have their special lanes. On the periphery of the built-up area are the industries that require space and involve activities regarded as undesirable: butchers, dyers, tanners. Candlemakers, dealers in incense, and booksellers usually settle near the largest mosque.

Each city has a few cobbled streets that lead across town from one gate to another. Branching out from the main streets are narrow lanes that end in blind alleys. Business districts may take the form of a single band (e.g., Meknès), a double band enclosing a narrow residential district (e.g., Fez), or may virtually surround the city (e.g., Rabat). A line of shops may extend for some distance along the main street. Occasionally, the space between opposing roofs is covered, and when the road has been sprinkled with water the atmosphere is surprisingly cool and damp. It is difficult to generalize about population densities, but they must be high. Houses and shops often have common walls, and private structures are usually small. Many craftsmen work in minute booths.

Tetuán and Shawen exhibit features characteristic of most Moroccan cities.[4] The *madina*, or native quarter, of Tetuán forms an irregular triangle, and is divided into six wards, each with its own mosque. Access to the city may be gained by any one of six gates. The streets of Tetuán, like those of all Moroccan cities, are intricate and confusing.

At the turn of the century Joly divided the native industries of Tetuán into eleven categories, including leatherwork, ceramics, metalwork, woodwork, building, painting, textiles, clothing, and numerous small trades and industries, ranging from bookbinding to the manufacture of gunpowder.[5] The most important guilds were and still are the tanners, shoemakers, and potters.

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[3] The classic study of urbanism in Morocco is Roger le Tourneau, ***Fès avant le protectorat: étude économique et sociale d'une ville de l'Occident musulman*** (Casablanca: Société Marocaine de Librairie et d'Edition, 1949). For a summary account of urban geography, see Konrad Wiche, "Marokkanische Stadttypen," in ***Festschrift zur Hundertjahrfeier der geographischen Gesellschaft in Wien, 1856–1956*** (Vienna, 1957), pp. 485–527

[4] Tetuán is derived from the Berber "Thittawin" meaning "eyes." Shawen is the local Arabic of the Berber "Ishshawen" meaning "horns," and refers to the peaks that tower above the town. In 1953 there were 47,000 Muslims in Tetuán, and 11,500 in Shawen. Tetuán also had 30,000 Spaniards and 4,000 Jews. Shawen had 2,500 Spaniards but only 15 Jews. ***Anuario estadístico, 1952–53***, p. 42.

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[5] A. Joly, "L'industrie à Tétouan," ***Archives Marocaines***, 8, 11, 18 (1906–1912).

000 Physical form differs little from the largest to the smallest city. Shawen has a bewildering number of narrow alleys and dead ends—the same pattern of walls and gates found in Tetuán, Fez, and Marrakech, the same crowded houses and minute booths. The one distinctive feature of Shawen is its architecture. Sloping tile roofs and whitewashed walls betray Andalusian influence.

Shawen has a number of craft guilds and three tanneries, but their products are largely for local use. The presence of a ward of shoemakers suggests that the making of leather slippers was once an important industry. Today the Shawen shoemakers send their work to Tetuán for finishing. Silk and linen work used to be important, but neither is now practiced. The most important industry at present is textile weaving, which is unsurpassed in Morocco. Shawen is said to produce the finest cloaks in the northern zone.

In Morocco, as in most parts of the Muslim world, it is difficult to find intermediate stages in the settlement hierarchy. Indeed, there is no equivalent in Maghribi Arabic for the word "town." From *madina* (city) the Moroccan vocabulary turns to *dshar* (village), *douar* (hamlet), and *azib* (farmstead).

One reason for the absence of intermediate forms of urbanization is that the existing cities did not evolve as trading centers for the rural countryside. In rural Morocco the traditional foci of commerce are weekly markets (*aswaq*) held in the open air. Permanent markets are a recent development, and most of them are located in areas where European influence has been strong. In the more isolated and self-sufficient districts the successful functioning of the weekly markets has acted as a check against urbanization.[8]

The Moroccan city is an imposed entity, foreign to tribal life. Some cities trace their origin to Roman time, others began during the period of Arab conquest, and still others were founded by Europeans. No Moroccan city is truly native. It is not surprising, therefore, that cities should be found only in the lowlands where alien authority was easy to establish and maintain. In the highlands, Berber ideals of political independence and economic self-sufficiency had an arresting effect on urbanization.

The ports of Ceuta and Melilla were used by the Portuguese and Spanish as bases of colonial and military activity, and even today are governed as integral parts of Spain. Larache and Arcila also reflect Iberian influence. Tetuán began as a military post designed to protect the route from Tangier to Fez. In the sixteenth century it was a focus of immigration for Muslims and Jews who were being expelled from Spain. Shawen, established in 1471 as a base of operations for campaigns against the Portuguese, served also as a refuge for Andalusian Moors. Ksar al-Kebir had a similar function in the eleventh century. Tangier has been the headquarters of a whole series of foreign interests: Carthaginian, Roman, Portuguese, Spanish, English, and lately even international. Most of the Moroccan residents of Tangier are immigrants from the Rif, who do not wish to be identified with the Jbalan tribesmen of the nearby hills. Only two other settlements in the northern zone, Alhucemas and Nador, deserve to be called towns, and they owe their development to the Spanish.

Intimate relations between city and hinterland are difficult to establish when

(TEXT CONTINUED ON PAGE 69)

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[8] For a fuller discussion of this topic, see M. W. Mikesell, "The Role of Tribal Markets in Morocco," *Geog. Rev.*, 48 (1958), 494–511.

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is extended into an L- or U-shape, and similar units are added by the grandchildren (fig. 16). In Ghmara and Sanhaja as-Srair, growing families are often accommodated by the addition of a second story, but this type of architecture is rare in the deforested areas of Jbala and the Rif.

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The necessary conditions of settlement are adequate amounts of land and a reliable source of water. Water is the more critical requirement. There must be sufficient water for drinking, watering the animals, washing clothes, taking an occasional bath, and, if possible, operating a grist mill. The runoff of the stream should be sufficient to irrigate a few precious plots of terraced land in which to grow vegetables and protein-rich legumes. In Jbala most hamlets appear on ridges overlooking the cultivated land. In Sanhaja as-Srair the preferred settlement sites are near the bottoms of valleys, close to perennial streams. Settlement forms a continuous line where terraces can be constructed along a large stream. The valley of Abd al-Ghaya in Ktama is a narrow ribbon of terraces and houses, stretching ten kilometers. In the valley of Taghzut the ribbon form of settlement is even more striking.[7] The concentration of settlement in deep valleys imposes severe barriers to communication. In Bani Hmid and Bani Bu Shibat, neighboring hamlets are often separated by ridges towering several hundred meters above the inhabited land. Similar problems are created by the deep ravines on the Ghmaran coast. To visit a friend or reach the nearest market, many tribesmen must spend hours on tortuous trails. In the steepest valleys, settlements are themselves terraced, like the cultivated land.

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In most of the Rif the terms "hamlet" and "village" are complete misnomers. Reflecting the independent spirit of their owners, Rifian houses are separated by at least a hundred meters; in Aith Wariyaghar the usual spacing is three hundred meters,[8] and in former generations each house had a corner tower used as a lookout and blockhouse. The houses that make up a lineage unit are usually closer to one another than they are to those of any other unit, but a man must walk a short distance to visit his brother. In Sanhaja as-Srair, however, he would

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have only a few steps to walk. In Jbala and Ghmara the houses of kinsmen often have common walls. In most of Morocco, and especially in the Rif, houses are

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located in territory that indisputably belongs to one tribe or another. Border zones are seldom used except as range land, and in former generations even this use led to violent conflicts.

TYPES OF HOUSES

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In the whole of Morocco there are at least seven distinct types of houses. In the Gharb and in most of the coastal zone between Rabat and Wad Lukkus, the common house is a crude conical structure (*nouala*) of cane and thatch. On the southern slopes of the Atlas and in the oases of the pre-Saharan zone, houses are huge multistory structures (*qsar*) made of rammed mud blocks. On the northern slopes of the High Atlas, houses are built of stone, and resemble solid little blocks.

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[7] See the aerial photographs of Taghzut in Jules Blache, "Modes of Life in the Moroccan Countryside," *Geog. Rev.*, 11 (1921), 501.

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[8] A. Sánchez Pérez, "Datos historicos sobre ciudades rifeñas," in *Selecciones de conferencias y trabajos realizados durante el curso de interventores, 1951–52* (Tetuán: Imprenta Cremades, 1952), describes this distance as "el radio mínimo del espacio vital que un Rifeño de buena raza necesita para respirar a sus anchas."

7: Mikesell K-4,5 (1955-1957) 1961 MX3 Rif MX3
Jebala MX2

R 342 171 Rectangular houses, built about a courtyard, are common in the Rif and in the coastal zone from Mazagan to Agadir. The tribes of the Middle Atlas, who practice transhumance, spend the summer months in tents. Tents are seen also in the Gharb and in the lower Moulouya Valley. In the northwestern corner of Morocco one finds still another type of house, again rectangular in shape, but with a sloping roof of thatch.[*]

The sketches in figure 17 illustrate and roughly locate northern Morocco's main architectural styles. Two traditions are immediately discerned. In the eastern half of the zone the houses have flat roofs and the walls enclose an open courtyard; in the western area the houses have sloping roofs and there are no courtyards. R 342 361 171 Tents of woven goat hair appear only in the areas occupied by pastoral tribes—Ibdharsen, Aith Bu Yihyi, and Ulad Stut. The division between flat and sloping roofs coincides almost exactly with the division between clustered and dispersed settlements. These distinct patterns of settlement in turn roughly coincide with the division between Rifian and Arabic or Sanhajan speech (cf. figs. 15 and 12). Targist, with clustered settlement and houses of both eastern and western style, is an area of transition. Settlement morphology reveals the heterogeneous character of this tribe.

J 342 171 Houses are built of mud brick in Jbala and along most of the Atlantic littoral. After the walls have been constructed, a ridgepole, usually the trunk of a slender riparian tree, is placed across the top of the structure, and smaller poles are set at right angles to the ridge. Thatching is applied, and the house is ready to be occupied. The distinguishing feature of houses in the Jbalan area is that the thatch is allowed to droop almost to the ground. Hipped roofs are seen in Anjra and the Fahs territory, but the more common form is a simple saddle or ridge. The Jbalan house is a small structure about five meters long and three meters wide. There is seldom any differentiation of floor levels or rooms, and furnishing is usually limited to a single mat or rug. Hamlets may be enclosed by a cluster of opuntia or a brush fence, but there is no attempt to build houses and walls to enclose a courtyard.

000 South of Wad Lukkus, in the Gharb, the Jbalan type of house is replaced by cruder structures of cane or reeds. One form is like the Jbalan house, except that its walls are made of wickerwork. Another and much cruder form consists of a conical or circular framework of cane covered with straw. This structure, which seems to be of Sudanese origin, has been adopted by settled tribes of bedawin origin as a substitute for tents. Conical huts are the dominant dwelling in the

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R (113) [*] In the area of French influence, the literature on rural architecture is abundant, but for the Spanish zone there are only the accounts of E. Blanco Izaga, *La vivienda rifeña* (Ceuta: Imprenta Imperio, 1930); C. S. Coon, "Tribes of the Rif," *Harvard African Studies*, 9 (1931); and Ernst Rackow, *Beiträge zur Kenntnis der materiellen Kultur Nordwest-Marokkos: Wohnraum, Hausrat, Kostüm* (Wiesbaden: Otto Harrassowitz, 1958. On types of houses in French Morocco, see A. Bernard, "L'Afrique du Nord," in *L'Habitation indigène dans les possessions françaises* (Paris: Editions Maritimes et Coloniales, 1930); Robert Montagne, *Villages et kasbas berbères* (Paris: Felix Alcan, 1930); E. Laoust, "L'habitation chez les transhumants du Maroc central," *Hespéris*, 10, 14, 18 (1931–1944); M. Gaud and G. Sigault, "L'habitat indigène au Maroc," *Bull. de l'Institut d'Hygiène au Maroc*, 4 (1937), 4–102; André Adam, *La Maison et le village dans quelques tribus de l'Anti-Atlas* (Paris: Larose, 1952); Dj. Jacques-Meunié, *Greniers-citadelles au Maroc* (Paris: Larose, 1951); E. Mauret, H. Pommeret, and R. Ringuelet, "Problèmes de l'habitat rural dans la région de Rabat," *Bull. Economique et Social du Maroc*, 70 (1955), 15–71; and R. Aujard, "Problèmes de l'habitat rural dans la région d'Agadir," *ibid.*, 75 (1957), 275–288.

000 coastal plains between Rabat and Ksar al-Kebir, but they have not yet penetrated the northern zone.

R 342 [171] S R [417] Ghmaran houses differ slightly from those farther to the west. Like the Jbalan houses they are rectangular and have thatch roofs. Ghmaran houses may, however, have two stories. Another distinguishing feature is that adjoining structures often have common roofs. Ghmaran hamlets, like those in Sanhaja as-Srair, tend to develop into units of L- or U-shape (pl. 2, *a*). When a second story is added, steps are cut into the adobe walls. (In Sanhaja as-Srair the second floor is reached by a notched log.)

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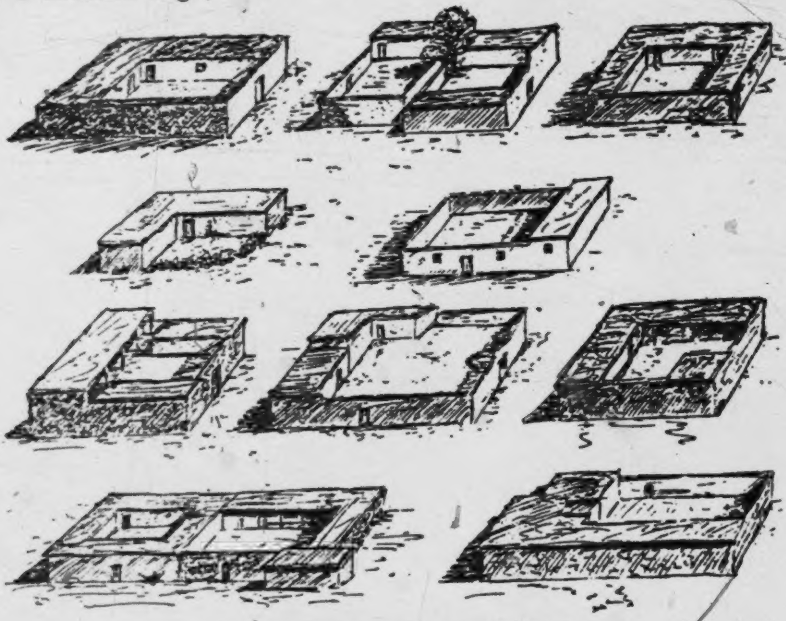

Fig. 19. Examples of Rifian courtyards, Aith Wariyaghar.

000 R 343 by a notched log.) Ghmara seems to be the only area in northern Morocco with special structures built to serve as granaries. Communal granaries (*agadir*) usually have the form of the prevalent houses.[10] Individual or family granaries are small structures of adobe brick and plaster set on wooden planks and supported by stone pedestals.[11]

S 342 [191] At first glance, Sanhajan houses seem much like those in Ghmara and Jbala. The difference is in detail rather than in general outline. The foundation of the Sanhajan house is a rectangular shell of mud brick or stone with end sections constructed to form peaks about two meters above the walls. The two ends of

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R [113] [10] In northern Morocco communal granaries are found only in the territory of the Bani Zejal. Robert Montagne, *Un Magasin collectif de l'Anti-Atlas: l'Agadir des Ikounka* (Paris: Larose, 1930), p. 64 and figs. 24, 25.

[11] J. Caro Baroja, *Estudios Mogrebíes* (Madrid: Instituto de Estudios Africanos, 1957), p. 133.

7: Mikesell K-4,5 (1955-1957) 1961 MX3 Rif MX3
Senhaja MX4

CHAPTER VI

LIVELIHOOD

000 THE RURAL POPULATION of northern Morocco is composed mainly of sedentary farmers who enjoy some of the advantages of specialization and exchange. They are not peasants in the European sense of the word, but neither are they subsistence farmers comparable to some of the tropical African tribes. Differences in slope and exposure encourage a modest degree of crop specialization even among communities that strive to be self-sufficient in staple foods. The purpose of specialization is to produce crops that can be exchanged for others less well S adapted to the available land. In the Sanhajan highlands there is a notable dif- −241 ference in land use on sunny and shady slopes; yet all Sanhajan communities 311 try to produce an adequate amount of barley. Tea, sugar, salt, and kerosene constitute the only primary commodities that must be brought in from the out- S side. Since barter is common locally, currency has little value as a medium of 437 exchange, except for a few hours on market days, for example, after the sale 436 of eggs or walnuts but before the purchase of a week's supply of sugar or tea. 000 Morocco's large food imports—more than half of the wheat flour consumed between 1946 and 1950 was imported[1]—are directed to cities and towns.

Another distinctive feature of rural economy is the meager development of craft specialization. The cumulative skills of any rural community do not greatly exceed the combined skills of a man and his wife. If necessary, any man can produce most of the tools he needs; and the combined knowledge of a hundred women does not greatly exceed the knowledge of any one woman of middle age.

Since technology does not vary greatly from place to place or even among individuals, prosperity or poverty is conditioned primarily by the quantity or quality of land. From the standpoint of precipitation alone, the most attractive parts of northern Morocco are the limestone highlands extending from Ceuta to Shawen, and the sandstone outliers on the western margins of the Rif chain. But the precipitation often has very little efficacy. The concentration of most of the annual rainfall during a few days emphasizes its torrential character and erosive power on steep slopes. Most of the calcareous zone is now devoid of soil, and a large part of the arenaceous highlands have been eroded down to sterile subsoil. There are great variations in fertility even in the lowlands. At one end of the scale are the poor dune soils south of Larache. The dark color of many of the heavier soils is indicative not of humus but of iron salts. Between these extremes of sand and clay is a wide range of loams, like the *hamri*, or terra rossa, which are better suited to cultivation and better adapted to irrigation. But the total area of such soils, indeed of all alluvial soils, amounts to less than 10 per cent of the northern zone.[2]

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[1] *Anuario estadístico, 1952–53* (Madrid: Instituto Nacional de Estadística, 1955), p. 95.

● 113 [2] On edaphic conditions in the northern zone, see J. A. Jiménez Salas, "Suelos de la zona norte del protectorado de España en Marruecos," *Anales de Edafología y Fisiología Vegetal*, 5 (1946), 277–305; 8 (1949), 3–31.

7: Mikesell K-4,5 (1955-1957) 1961 MX3 Rif MX3
Senhaja MX4

R 241 171 zone may be used only for pasture. This arrangement seems orderly and rational, but its effect is to accelerate the deterioration of the land. Grain stubble (which is often grazed) and vines (which are often placed parallel to the slope) do not constitute an adequate protection for the soil. As population increases, the zones of dry farming and pasture are extended to higher slopes. First the forest is destroyed, then the scrub cover is removed, and eventually the zone of dry farming is stripped of soil.[3]

CROP COMBINATIONS

The basic crops of northern Morocco are well adapted to the Mediterranean climate, for cereals can be grown during the rainy season, and trees, by virtue of their large root systems, are suited to the long dry summers. When water is available for irrigation, diets are balanced and there is no danger of famine. This happy combination of dry farming, horticulture, and gardening is realized only in the highlands and on the main river plains. Irrigated land probably accounts for less than 5 per cent of the surface of the northern zone. Most tribesmen depend on the unpredictable rains.

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TABLE 4
LAND UNDER CEREALS
(Hectares)

	1936-40	1951	1952	1953
Barley	75,729	193,600	164,129	174,905
Wheat	30,518	70,895	73,180	76,392
Sorghum	25,656	49,092	51,094	46,981
Maize	4,318	4,992	6,020	6,206
Rye	1,253	3,411	3,724	3,305
Totals	137,474	321,991	298,147	307,789

SOURCE: *Anuario estadístico, 1952-53* (Madrid, 1955), p. 93.

R 243 171 In the whole of Morocco about 90 per cent of the land under field crops is planted to cereals. Table 4 shows the amount of land used for growing cereals in the northern zone. Barley accounts for nearly half of the total cultivated area in the northern zone.[4] One advantage of barley is that it can be cut while green, thus making space for summer crops. When barley is cut green, it is toasted before it is milled, and then is mixed with butter to form a paste. Wheat is more highly prized, but is less successful on thin residual soils. In many areas wheat S flour is used only as a flavoring and leavening agent. Rye is [illegible] in the Sanhajan [243] highlands, but is not generally regarded as an importan[illegible]d. No one would [262] think of serving rye bread to a guest. At the approach of a visitor, an attempt [574] may even be made to hide all rye bread. When land is abundant, rye may be grown for use as thatch, and the grain is not collected. In the Rif it used to be a

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R [113] [3] On the relationship of economic history and erosion, see Paul Vageler, "Zur Bodengeographie Algiers; Faktoren der Bodenbildung und -verteilung. Die Catena als bodengenetische Einheit," *Petermanns Mitt.*, Ergänzungsheft 258 (1955), 88–99.

R [113] [4] In 1950 there were 373,482 hectares of land under cultivation in Spanish Morocco. *Anuario estadístico, 1952–53*, p. 91, cited in note 1.

J 241 171 the gradual decrease in the number of fruit and nut trees. The tribesmen of Jbala and the Atlantic littoral can count on adequate rainfall for a good cereal crop in most years. Moreover, since the summer weather is cooler and more humid than in the interior, crops do not suffer from excessive evaporation. Cereals in winter give way to summer crops of sorghum and chickpeas. The latter are not irrigated, and so there is no need for terracing. Slopes are covered with an irregular patchwork of cultivated plots without walls or ditches. Each hamlet is surrounded by cactus (*Opuntia Ficus-indica*), which is cultivated as a hedge and for its edible fruit.

FARM IMPLEMENTS

R 412 171 The implements used by Moroccan farmers are simple and few, for long-established habit opposes change. There are some general reasons for conservatism, such as the abundance and cheapness of manpower and the stagnation of industry. There are specific reasons as well: the prevalence of steep slopes, of small plots where only handwork is possible, and the difficulty of hauling heavy equipment through mountainous terrain. Implements are limited to mattocks, picks, hatchets, hoes, plows, grist mills, and equipment for pulping and pressing olives. Plowshares and other iron tools are made and repaired by local blacksmiths.

R 407 171 The Moroccan plow is a one-handled implement without wheels, colter, or moldboard. Wings are attached obliquely to either side of the share in order to widen the furrows, though not to reverse the sod. Since there is no harrow, clods are broken with hoes or clubs, and a second plowing is necessary to cover the seed. The share is made from a flat piece of iron hammered over at the edges to form a socket. The plow itself is much the same throughout the northern zone. J [407] [492] The main regional difference is in the manner of yoking. In Jbala plows are fastened to the foreheads of cows or oxen (pl. 4, *b*); neck yoking is practiced elsewhere.[7] Mixed teams are common, combining donkeys, mules, or oxen, or one of these animals with a camel (pl. 4, *b*).

R 412 171 Figure 21 illustrates the main hand tools. The first four (*a–d*) are digging and weeding tools; the complex tool in the fourth sketch (*d*) seems to be restricted to Jbala, for the Sanhajans and Rifians are unable to give it a name. The fifth sketch (*e*) shows an all-purpose grubbing and cutting tool, which the women use J [412] to collect fuel and edible plants. Figure 20, *f*, is the hatchet used by woodcutters in Ktama; 20, *g*, is the ubiquitous sickle.

R 256 171 Milling is ordinarily accomplished with a rotary hand mill consisting of an upper stone, turned with a wooden handle, and a lower stone that remains stationary.[8] In areas of abundant runoff there are also vertical water mills, consisting of a turbine wheel attached to the upper of two millstones, a hopper mounted above the stone, and a feed slot jiggled by the upper stone to ensure an even flow (fig. 22). The lower stone is larger than the upper, and is rimmed with a slightly raised border, broken at one place to allow extraction of the flour.[9] Mills of this

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R [113] [7] For other illustrations of Moroccan plows, see E. Laoust, *Mots et choses berbères: notes de linguistique et d'éthnographie* (Paris: Augustin Challamel, 1920), pp. 275–301.

R [113] [8] This type of mill is illustrated in Ernst Rackow, *Beiträge zur Kenntnis der materiellen Kultur Nordwest-Marokkos: Wohnraum, Hausrat, Kostüm* (Wiesbaden: Otto Harrassowitz, 1958), plate LI.

R [113] [9] The origin and evolution of the rotary hand mill and the turbine mill are discussed at length in L. A. Moritz, *Grain-Mills and Flour in Classical Antiquity* (Oxford: Clarendon Press, 1958).

R 256 171 [423] Mills of this type are usually privately owned, and the owner collects one-tenth of the flour. When there is neither hand nor turbine mill, the women pound the grain with iron bars.

R 245 407 171 The implements used to press and pulp olives are similar to those used in Roman time.[10] The apparatus consists of a mill, a press, and a vat. The millstone lies against a centrally placed revolving post and is turned by means of a horizontal shaft with one end secured in the center post and the other projecting beyond the stone (fig. 23). Mills are used both for bruising the fruit before pressing and later to pulp the pressed fruit for use as cattle fodder. The larger mills are powered by animals, the smaller by hand. The essential part of the press is a large log, held in place by heavy wooden screws, which is forced down on baskets filled with olive mash.

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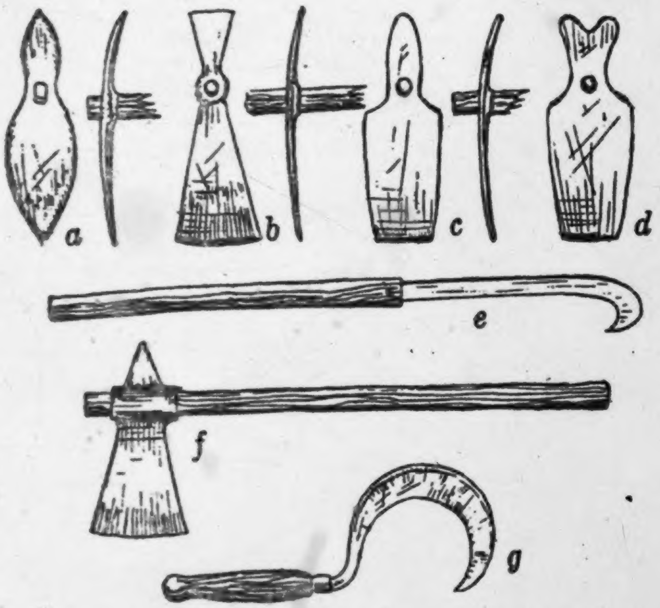

Fig. 21. Farm implements: *a, b, c, d,* digging and weeding tools; *e,* grubbing and cutting tool; *f,* hatchet used by woodcutters; *g,* sickle.

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ROLE OF DOMESTIC ANIMALS

R 231 171 In the statistical report of 1953 the number of domestic animals in Spanish Morocco is given as 1,104,000 goats, 661,000 sheep, 337,000 cattle, 55,000 donkeys, 22,000 mules, and 2,000 camels.[11] The number of goats nearly equals that of human beings. They are kept for their meat, milk, and hides. In many areas the number of goats is limited only by the amount of space available for storage of fodder and by the number of goatherds.

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[10] H. Camps-Fabrer, *L'Olivier et l'huile dans l'Afrique romaine* (Algiers: Service des Antiquités, 1953).

[11] *Anuario estadistico, 1952–53,* p. 131, cited in note 1.

241 312 171 different dam. In deep valleys it is often necessary to move water back and forth across the natural drainage lines. For this purpose, wooden conduits are set on long tripods. Construction of irrigation works begins in the spring, and after a few months of use the water is redirected into its natural course. Since water is required only during the dry season, irrigation systems are designed for the minimum runoff. On steep slopes, water is carefully directed into a series of ponds; check dams are used to impound water from springs. Channels are constructed to lead water to grist mills, but the use of water for milling has a low priority, for most communities also have smaller mills turned by hand.

The construction and maintenance of dams and irrigation ditches require less effort than the construction and maintenance of terraces. With the exception of a few works in the coastal plains, terracing is necessary for irrigation. Since irrigation involves channeling rather than simple flooding, most terraces have a slight slope and are supported by stone walls (pl. 6, *b*). There is no rotation of crops on irrigated land. In areas of thin residual soil the land is gradually built up by the constant deposition of baskets of mud, another of the backbreaking tasks assigned to the women. Fertilizer, a mixture of sheep dung and ashes, is applied each year.

312 171 [423] The regulation of water rights is a complicated matter.[14] The rights of preference pass from human beings to animals, crops, and industries. The two main rivers of the Rif, Wad Ghis and Wad Nkour, illustrate the problems of management. Wad Ghis has only about a fourth of the flow of Wad Nkour, but its flow is more predictable. Those who irrigate with its waters know the quantity they can expect, and plan accordingly. In normal years Wad Nkour irrigates nearly ten times as much land as Wad Ghis, but in some years it remains little more than a muddy trickle. Hence there is frequent occasion for disputes, which in the past often led to prolonged feuds. In both basins the mountaineers have almost unlimited use of water, while the more numerous plainsmen must be satisfied with what is left. Most Rifian communities have secondary sources of water: wells, springs, and ponds. Each family is allowed a certain time at the water source, and the community as a whole works out the regulations and fines.

An elaborate series of agreements, usually verbal, deals with the construction and maintenance of irrigation works. The labor of construction as well as the necessary reconstruction after heavy rains is done by representatives of the families using the water. [578] Infractions of agreement often lead to differences of opinion about these responsibilities or the period of time water is used. Serious disputes may arise over the outlines of ditches, and for this reason it is necessary to gain the consent of each property owner over whose land the water is to flow. The irrigation turns of the larger communities are regulated by days. Within such communities, individual families are allowed shorter periods of use, usually an hour. The mechanics of irrigation requires the use of the hoe to build up and then destroy a tiny diversion dam.

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[113] [14] In this section I have made use of J. M. Paniagua y Santos, "Notas sobre el derecho consuetudinario de la propiedad en el Rif," *Archivos del Instituto de Estudios Africanos*, 4 (1948), 1–44; D. M. Hart, "An Ethnographic Survey of the Riffian Tribe of Aith Wuryaghil," *Tamuda*, 2 (1954), 55–57; and D. A. Caponera, "Water Laws in the Moslem Countries," *FAO Development Paper 43* (Rome: Food and Agricultural Organization of the United Nations, 1954).

A, [See p. 130--Analyst]

CONTRACTS AND COÖPERATION

675 When tribesmen are unable or unwilling to work their own land, contracts are
464 made between the wealthier and the poorer members of a community; those who
171 have little land or equipment hire themselves out to those who have more. Farmers
241 who have more animals than they or their sons can manage, make agreements with others to care for the herd. The hired shepherds, while the animals are in their hands, receive part of the milk and butter, some of the young that are born, and, if the animals are sold, a share of the profit. The shepherd receives part, sometimes half, of the wool. Full-time employment as a shepherd is considered rather degrading, and for this reason it is the common occupation of exiles and orphans.

Vegetable gardens, orchards, and fields may be cared for by hired laborers. If their job entails the difficult task of setting up terraces, they may get up to a third of the crop. If they perform all the operations necessary for cereal cultivation, they receive a fifth of the crop. If the hired hand needs an assistant during the reaping, the latter is paid with a tenth of the harvest. Associations of this sort are not common; farm labor is ordinarily done by the landowner and his sons.

476 A second type of association takes place when two farmers own plots of about
241 the same size but do not have enough animals or equipment to work their land
171 independently. The two farmers join forces, each supplying his share, and the harvest is divided between them. This form of coöperation is common when a farmer has only one draft animal. In irrigated areas, one man may supply the land and part of the seed, and another the rest of the seed, the animals, and the plow. Since most communities are kinship groups, coöperation of this sort is usually among brothers or cousins.[13]

INHERITANCE

428 The inheritance of property[14] in most of Morocco follows standard Maliki prac-
171 tice, which allots a share to each son equal to that falling to two daughters. When a man dies his widow first receives one-eighth of his property and the remainder is divided among the sons and daughters. All sons inherit equally, as do all daughters. If a man dies leaving a widow and daughters only, the widow gets one-eighth and the remainder is divided into three parts, of which the daughters receive two and the father's brother one. If the father has no brothers, the rest (aside from the widow's share) goes to the daughters. If he does have brothers, and dies leaving only one daughter, she receives half of the property (minus the widow's share) and the brothers get the other half. If a man dies leaving no children, his widow receives a fourth of his property and the rest goes to the brothers. If a man with children dies prior to his father, the children have no right to the property and receive shares only if the grandfather agrees to such a division.

[423] Moroccans are very reluctant to divide up their land. When brothers inherit land they customarily work it jointly, the eldest brother acting as a substitute

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[113] [13] On contracts and coöperation, see also A. Sánchez Pérez, "Aprovechamientos comunales y formas de cooperación en el Rif," *Selección de conferencias pronunciadas en la Academia de Interventores durante el curso 1950–51* (Tetuán: Imprenta Cremades, 1951), pp. 95–104.

[113] [14] This paragraph is based upon the remarks of D. M. Hart in *Morocco: Subcontractor's Monograph* (New Haven: Human Relations Area Files, 1956), pp. 141–143.

428 423 171 for the father. Division takes place only if the brothers quarrel. Since daughters nearly always marry into other communities, they are usually induced to sell their land.

HUNTING AND FISHING

224 171 In autumn and winter most men, and especially the mountaineers, spend as much time as possible in search of game. Their chief quarry consists of rabbits, pigeons, and partridges; in former generations they also hunted wild boar, aoudad, and gazelle.[17] Rifles, nets, traps, strones, and clubs are used in hunting. Game may be driven into a net at the base of a palisade. Those who can afford rifles shoot their game, and a generation ago hunters made proficient use of flintlocks. The best time for hunting rabbits is after a snowfall, when they can be traced to their nests. In the Sanhajan highlands such periods are marked by the scurrying about of numerous hunting parties and the incessant barking of dogs.

It is difficult to say whether hunting should be described as a phase of livelihood or merely as a sport. Game evidently makes an appreciable contribution to diet only in the highlands, and even there the year's catch may be limited to a [576] few rabbits and birds. Yet one of the highest compliments you can pay a Moroccan is to call him a "great hunter," and many an evening is spent listening to hunting adventures. Game is usually pursued during the idle period, after the cereals have been sown and before it is time to think of the summer crops. Interest in marksmanship is associated with the old tradition of the gentleman warrior. [411] To the young Rifian, who grows up hearing tales of feuds and wars, there is no greater pleasure than to possess a fine rifle. This seems to have been the motivation of many of the boys who joined the Spanish army or the native *mehalla*.

226 171 Fishing takes place all along the Mediterranean coast. Most of the catch is obtained by seining small fish near the shore. The seine, made of hemp, is carried out about a hundred meters in a small boat. It is attached to two ropes held by men on the beach. When the boat has reached the end of the ropes, the seine is let out in a semicircle. The ropes are then pulled in, gradually lessening the distance between them. When the net is beached, the fish are scooped up in baskets and put in a common pile, later to be divided among the families assisting in the catch.[18]

[175] In the journal of Leo Africanus are several accounts which suggest that fishing was an important industry in the sixteenth century.[19] At Peñón de Vélez he found "such abundance of fish, that one man alone is not able to draw up a net." He notes that fish from Peñón de Vélez were "salted and sent up into the mountains." At Terga, near Wad Lao, most of the inhabitants were fisherman "who, getting great abundance of fish, salt them and carry them to sell almost a hundred miles southward." At Tiguisas, on the Ghmaran coast, all the inhabitants were "fishers and seafaring men," and the smell of their fish "miserably infecteth the whole province." Even if these reports are exaggerated, it seems likely that fishing was

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[113] [17] For a Spanish sportsman's account of game in northern Morocco see G. Durán Pulis, *La caza en Marruecos* (Las Palmas: Imprenta Minerva, 1955). Note also the brief remarks of Coon, "Tribes of the Rif," pp. 37–38, cited in note 5.

[113] [18] On the details of this operation, see Ignacio del Cubillo, "Actividades marítimas de la zona de protectorado de España en Marruecos," *Conferencias desarrolladas en la Academia de Interventores durante el curso de 1947* (Tetuán: Imprenta del Majzen, 1948). The boat is illustrated in Rackow, *op. cit.*, plate XLIX, cited in note 8.

[19] Leo Africanus, *The History and Description of Africa*, II, 517–520.

7: Mikesell K-4,5 (1955-1957) 1961 MX3 Rif MX3
Senhaja MX4

226 171 more important at that time than it is today. In chapter vii evidence will be presented to show that the same coastal area was once an important center of shipbuilding.

S [226] [824] [171] Fresh-water fishing seems to be restricted to a few streams in the mountains of Ghmara and Sanhaja as-Srair. The Sanhajans make use of the toxic roots of *Daphne Gnidium* (Arabic *mat'nan*) to stun fish, a practice that has been observed also in Sardinia, Portugal, and Spain.[m]

Utilization of Wild Plants

R 757 824 171 The average Moroccan woman can identify at least a hundred plants, and many are thought to have medicinal or magical qualities. To cure an ear infection, the ear is plugged with a mixture of butter and the ground leaves of *Ruta Montana*. The cure for a cold is to induce sweating by drinking milk or tea heavily seasoned with *Mentha pulegium*. A wound is cleaned with the leaves of *Inula viscosa*, and the leaves of other plants are worn under headgear to cure or prevent headaches, or in slippers to reduce fatigue. The number of similar ideas is limitless.

R 222 262 171 [137] Many wild plants have food value, and are collected even when regular harvests are bountiful. The list of such foods includes the seeds of several species of *Cistus* (*C. albidus*, *C. laurifolius*, *C. ladaniferus*), the sweet acorn of *Quercus Ilex*, the fruit of *Arbutus Unedo*, the roots of *Halimium lasiocalycinum*, and the berries of *Rubus ulmifolus* and *Crataegus laciniata*. Moroccans eat the bud of the palmetto. Acorns and *Cistus* seeds seem to be the most important famine foods.

Markets

R 484 171 It would be a mistake to conclude that rural communities in northern Morocco live in complete isolation. Moroccans are fond of travel, and the men, at least, have some time to satisfy their wanderlust each year. There are few men, even in the remote highlands, who have not visited at least one city. But when a Rifian or Sanhajan sets out for Fez or Tetuán he is likely to be more interested in sightseeing than in shopping. He may bring back a new cloak for himself or a piece of costume jewelry for his wife, but more often returns only with accounts of strange sights and tales of adventure.

R 438 439 171 A rudimentary system of trade does exist. A few manufactured articles are found in most homes, and some communities produce marketable goods. For example, the village of Mediuna, just south of Cape Spartel, is engaged in quarrying millstones from the Caves of Hercules.[n] Here they find a gritty conglomerate that is ideal for milling. The *m'allimin* (masters) who hew out these stones transport them on muleback to Tangier, whence they are traded throughout northern Morocco. Rifian women spend some time making pottery. During the idle months of winter, after the cereals have been harvested, Rifian men work on mats and baskets. Leatherwork is done at Taghzut, and winnowing forks are made at Ktama. Yet none of these activities seriously disturb the subsistence orientation of rural life. Specialization of this sort supplements but never supplants agriculture. The abiding concern of all tribesmen is with their fields.

R (113) [m] R. F. Heizer, "Aboriginal Fish Poisons," *Smithsonian Inst. Anthro. Papers*, 38 (1953), 263.

[n] C. S. Coon, *The Seven Caves: Archaeological Explorations in the Middle East* (New York: Alfred Knopf, 1957), p. 45; E. Cecil Curwen, "Tangier Quern-Quarry," *Antiquity*, 119 (September, 1956), 174 and plate VII.

7: Mikesell K-4,5 (1955-1957) 1961 MX3 Rif MX3
Senhaja MX4

R 443 438 439 171 The introspective character of rural Morocco is enhanced by the weekly trading market or *suq* (plural *aswaq*). These markets attract urban merchants, craftsmen, and entrepreneurs, but their principal function is to serve as outlets for the products of local specialization. One family comes to market with a basket of figs, and another with a pannier of walnuts. After an interval of haggling, each leaves with the specialty of the other. Exchange of this sort helps to add variety to the diet, and encourages an intelligent appraisal of local conditions of soil and climate. Staple foods seldom enter into this exchange. The goal of each community is to be self-sufficient in breadstuff. A few commodities, such as sugar, salt, tea, and kerosene, are imported from the cities, but the chief function of the weekly market is to satisfy the modest wants of dispersed communities engaged in subsistence agriculture.

R 443 171 [805] Markets are held in the open, at predetermined sites that are deserted during the rest of the week. In each tribal area one or more sites are reserved as market places and named as follows: *had* (Sunday), *tnine* (Monday), *tlata* (Tuesday), *arba* (Wednesday), *khemis* (Thursday), *jema* (Friday), and *sebt* (Saturday).[■] R [571] On the morning of the appointed day, streams of people converge on the market place. The *suq* is much more than a market in the economic sense of the word; it is also a social and political assembly of great importance in tribal life. Market day is the time for legal transactions and all manner of negotiation. By nightfall tribal authorities have resolved most of the problems of the week.

R 443 438 171 439 There is great variation in the size and influence of markets. In 1949 authorities of the Spanish protectorate made a study of the volume of business transacted at each *suq*. About a hundred markets were located; the annual volume of business, including barter, averaged about 10,000,000 pesetas per market. About a fourth of the markets had an annual business estimated at more than 65,000,000 pesetas (table 5). Most of the larger or regional markets are in the populous Rif (fig. 24). S [443] [438] [439] In the sparsely settled area of Sanhaja as-Srair, only one market, Tlata Ktama, serves as a trading center for more than one tribe. Khemis Izagan (pl. 7, *b*), with trade estimated at 3,000,000 pesetas, is typical of the smaller local markets.

Each market has four main functions: (1) distribution of local products, (2) exchange of rural surpluses or specialties for urban goods, (3) circulation of articles such as pottery and millstones from villages which specialize in making them, and (4) dissemination of foreign imports. The larger markets differ from the smaller in their greater emphasis on the latter two functions. Moreover, the larger markets are usually located at the convergence of communication lines and on the frontiers of complementary production zones.[■]

EMIGRATION

R 161 241 433 171 Unfortunately, the weekly markets do not compensate for uneven distribution of population and productive land. Few communities are able to accumulate

[TEXT CONTINUED ON PAGE 93]

[■] On French maps the names of the days of the week appear as *had*, *tnine*, *tleta*, *arba*, *khemis*, *djemaa*, and *sebt*; on Spanish maps the usual spellings are *had*, *tenin*, *telata*, *arbaa*, *jemis*, *yumaa*, and *sebt*.

R (113) [■] On the location and function of markets and the changes caused by recent improvement in communications, see M. W. Mikesell, "The Role of Tribal Markets in Morocco," *Geog. Rev.*, 48 (1958), 494–511.

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241 surplus food for lean years. Many tribesmen, especially the Rifians and the in-
433 habitants of Garet and Gal'aya, live under the constant threat of famine. Every
171 failure of the cereal crop causes great suffering. Even with resources developed
[731] to the limit, these areas would still be unable to provide full employment or full
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161 nutrition for their expanding populations. The rate of population growth through-

TABLE 5

VALUE OF TRADE AT REGIONAL MARKETS IN 1949

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Market	Volume of trade (pesetas)
Jbala—Lukkus	
Sebt Bani Said	43,000,000
Tlata Jbil Habib	89,000,000
Jema Zinat	80,000,000
Khemis Anjra	60,000,000
Tnine Sidi Yamani	117,000,000
Tlata Reisana	102,000,000
Sebt Bani Gurfat	82,500,000
Arba Aicha	68,500,000
Ghmara—Sanhaja as-Srair	
Had Bani Dercul	57,000,000
Tlata Bani Hmid	84,000,000
Tlata Ktama	65,000,000
Arba Targist	166,000,000
Rif—Garet—Gal'aya	
Tlata Aith Hadhifa	88,000,000
Arba Turirth	122,000,000
Tnine Aith Bu Ayyash	109,000,000
Tnine Aith Ammarth	65,000,000
Arba Aith Sidar	105,000,000
Khemis-Jema Driuch	138,000,000
Khemis Ain Zorah	107,000,000
Had-Tlata-Khemis Thimsaman	240,000,000
Tlata Ikibdhanen	104,000,000
Had Jbil Arruwi	101,000,000
Tnine-Khemis Thafarsith	78,000,000
Khemis Zaio	90,000,000

SOURCE: J. Cabello Alcaraz, *Apuntes de geografía de Marruecos* (Tetuán: Editora Marroquí, 1951), pp. 167-169.

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161 out northern Africa must be described as alarming. In Morocco the mean annual increase is 1.5 per cent. This rapid increase creates serious economic problems, all the more so on account of the youth of the population, of whom 41 per cent are less than fifteen years old.[24] The spread of preventive medicine and the persistence of such social practices as early marriage and easy repudiation of sterile
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[314] wives accentuate this trend. The cultivated area of northern Morocco has doubled
[171] in the last three decades,[25] but many tribes still find it impossible to grow enough
[433] food.

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[113] [24] Nevill Barbour, ed., *A Survey of North West Africa (the Maghrib)* (London and New York: Oxford University Press, 1959), p. 81.

[25] *Anuario estadístico, 1952–53*, p. 91, cited in note 1.

161 221 464 The answer to this dilemma, if it may be called an answer, is emigration. In the decade preceding the current disorder, more than 30,000 Rifians went to Algeria each year to work on French farms. The main drift took place during the slack winter season, but smaller groups migrated at other times of the year. Few Moroccans thought of emigration as a permanent change. They were hired by members of their own tribe appointed to serve as contractors, and messengers visited them regularly to collect money for the families left at home. Each tribe had its special place of employment. The Aith Warishik went to Sidi bel Abbes, the Aith Tuzin to Tlemcen, the Thimsaman to Blida and Ain Temouchent, and the Gal'ayan tribes to Oran.[illegible] The largest number of emigrants were recruited from the Aith Said, and it is not a coincidence that the territory of this tribe includes spectacular badlands. From the standpoint of the French farmer this movement was a blessing, for the Moroccans worked harder than the Algerians [167] and were satisfied with less pay. The tribesmen of the western Rif did not join in the seasonal movement to Algeria, but many of them migrated to Tetuán and Tangier.[illegible]

161 167 171 These movements are manifestations of a general trend. The oasis dwellers of the Mzab have long practiced emigration as a solution to their problem of overpopulation. The Mozabite is a farmer in his youth and again in old age; during the middle years he may be a bus driver, a shopkeeper, or a mechanic.[illegible] The same tradition is found among the craftsmen of Taghzut and some of the Shluh tribesmen of the Anti Atlas. Emigration is not a new development, but in recent years it has been practiced on an unprecedented scale.[illegible]

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(113) [illegible] F. Benedicto Pérez, "Trabajadores rifeños en Argelia," *Conferencias desarrolladas en la Academia de Interventores durante el curso de 1948* (Tetuán: Imprenta del Majzen, 1949), pp. 5–17.

(113) [illegible] D. M. Hart, "Notes on the Rifian Community of Tangier," *Middle East Jour.*, 11 (1957), 153–162.

[113] [illegible] In the Mzab the tradition of emigration for men is combined with a tradition that women must not leave the oasis. See Karl Suter, "Die Ortsgebundenheit der Frau bei den Mozabiten," *Geographica Helvetica*, 12 (1957), 102–114.

(113) [illegible] On emigration see also Günter Glauert, "Veränderungen in den Bevölkerungsstruktur Nordafrikas in den letzen Jahrzehnten," *Die Erde*, 88 (1957), 298–319; René Raynal, "Déplacements récents et actuels des populations du bassin de la Moulouya (Maroc oriental)," *Comptes Rendus du Congrès International de Géographie, Lisbonne, 1949* (Lisbon, 1952), IV, 67–80; and J. C. Petit and Castet Barou, "Contribution à l'étude des mouvements de la population marocaine musulmane et de l'exode rural," *Bull. Economique et Social du Maroc*, 68 (1955), 423–459.

7: Mikesell K-4,5 (1955-1957) 1961 MX3 Rif MX3

CHAPTER VII

EFFECTS OF SETTLEMENT ON THE LAND

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311 EVIDENCE of deforestation has already been considered briefly. In chapter ii the effects of burning and browsing were mentioned parenthetically in discussing the distribution of forest and scrub. Now that man's activities have been described, the discussion can be resumed.[1]

HISTORICAL EVIDENCE

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311 When the Emperor Claudius created the province of Mauritania Tingitana in A.D. 46, timber resources were nearly exhausted in the eastern Mediterranean basin. The cedars of Lebanon had been retreating since the time of King Solomon. Homer refers to "tall pines and spreading oaks" on the now virtually barren island of Sicily.[2] Plato, in the fifth century B.C., deplores the destruction of the forests in Greece,[3] and a century later Theophrastus complains that the supply of ship timber is limited.[4] In Pliny's time the thuya forests on Mount Ancorarius were already exhausted.[5] At the dawn of the Christian era, Roman ships were sailing as far away as the Caucasus ports to obtain timber, and Roman architecture eventually had to be modified to compensate for the scarcity and increasing price of wood. Large quantities of wood were needed to heat baths, and trees were cut everywhere for charcoal. Cork and tanners' bark were persistent items of trade. In both the Roman and the Carthaginian realms, perhaps the greatest wood-devouring industry was shipbuilding. As Miss Semple suggests, "A multitude of fishing smacks, naval vessels, merchant ships, and coastwise transportation boats kept up the demand for fir, pine, cedar, and minor woods which entered into their construction."[6] The coniferous forests were further depleted by the steady demand for pitch, resin, and tar. It would be rash to make sweeping generalizations on the basis of a few references after the lapse of centuries; yet it may be asserted that deforestation was evident in classical times, especially in the areas of Roman and Carthaginian influence, and that no forested area accessible to lumber merchants was ignored.[7]

In the time of Homer and Hesiod the Moroccan mountains were still confused with the peak of Tenerife, of which some indistinct knowledge had been gained from Phoenician sources.[8] The references to Atlas cedar in Latin literature usually refer to forests in the more familiar province of Numidia. According to Pliny,

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175 [1] For additional illustrations, see M. W. Mikesell, "Deforestation in Northern Morocco," *Science*, 132 (1960), 441–448.

113 [2] *Odyssey*, IX; *Iliad*, XII, XVI, XX.

311 [3] *Critias*, 111 A–D, trans. A. J. Toynbee in *Greek Historical Thought* (New York: Mentor Books, 1952), p. 146.

[4] *Enquiry into Plants . . .*, IV, 5.

[5] *Natural History*, XIII, 15. Most authorities place Mount Ancorarius in the Ouarsensis Massif of Algeria. Paul Boudy, *Économie forestière nord-africaine* (Paris: Larose, 1948–1955), I, 223.

[6] E. C. Semple, *The Geography of the Mediterranean Region: Its Relation to Ancient History* (New York: Henry Holt, 1931), p. 282.

[7] H. C. Darby, "The Clearing of the Woodland in Europe," in W. L. Thomas, Jr., ed., *Man's Role in Changing the Face of the Earth* (Chicago: University of Chicago Press, 1956), pp. 183–216.

[8] Cf. George Rawlinson's annotation of Herodotus, *History*, IV, 184 (London: J. M. Dent and Sons, 1910); and R. Thouvenot, "La connaissance de la montagne marocaine chez Pline l'Ancien," *Hespéris*, 26 (1939), 113–121.

175 311 Both of these alien invasions merely accelerated processes of destruction or decay that had been going on for a long time.

Several of the Arab chroniclers refer to woods in areas that are now deforested. The celebrated text of the seventh century in which northern Africa is described as a land of "continuous shade" is doubtless exaggerated, for the Maghrib would appear to be lush and verdant even today after a long trip through the deserts of Egypt and Libya. Later accounts are more specific, and several of these refer to northern Morocco. In the latter half of the eleventh century Al-Bekri describes an "extensive forest" near Qasr al-Awwal (Ksar as-Srair). Today this area is covered by a shrub formation, interrupted only by scattered clumps of cork oak. In the middle of the twelfth century Al-Idrisi describes Ghmara as a "mountainous and wooded" land. A generation later another author refers to forest in the Ghmaran mountains, and indicates that wood from this forest is used in the construction of boats. In the fifteenth century Al-Ansari found an "abundance of trees" near Ceuta, where forest is now limited to a few stands of cork oak and Aleppo pine.

In the sixteenth century the forests on the Rifian coast began to attract the attention of the Spanish. Moorish pirates had been raiding the Andalusian coast and it was virtually impossible for an unarmed ship to sail through the Strait of Gibraltar. The distress of the Spanish resulted not only from the daring of the Moors but also from the fact that the latter's boats were astonishingly fast and maneuverable. Contemporary accounts praise the "alerce" wood used in the Moorish boats and rate it higher than Spanish oak or pine. Opinions differ as to the identification of this wood, but descriptions of its distribution and properties strongly suggest the Barbary thuya (*Callitris articulata*). In 1505 an agent of Fernando el Católico suggested that an expedition should be directed against the Moroccan coast at Peñón de Vélez because large quantities of alerce were to be found there and not elsewhere on the coast. The latter assertion is almost certainly an error, for thuyas are still scattered over most of the Rifian littoral. At this time the interest of the Spanish seems to have been defensive, but they may have been interested in alerce as a source of timber for their own fleet. In the days of the Armada, Spain looked as far away as the Baltic for suitable timber.

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175 311 113 E. Lévi-Provençal, "Un nouveau récit de la conquête de l'Afrique du Nord par les arabes," *Arabica*, 1 (1954), 40.

Al-Bekri, *Description de l'Afrique septentrionale* (Algiers: Adolphe Jourdan, 1919), p. 206.

Al-Idrisi, *Description de l'Afrique et de l'Espagne* (Leiden: E. J. Brill, 1866), pp. 203–204.

J. Vernet Ginés, "Marruecos en la geografía de Ibn Sa'id al-Maghribi," *Tamuda*, 1 (1953), 255.

E. Lévi-Provençal, "Une description de Ceuta musulmane au XVe siècle," *Hespéris*, 12 (1931), 145–176.

After initially labeling alerce as thuya, T. García Figueras, *Miscelánea de estudios históricos sobre Marruecos* (Larache: Editora Marroquí, 1949), pp. 143–148, suggests that this name is related to *arz* (Arabic for "cedar"), an opinion shared by J. Corominas, *Diccionario crítico etimológico de la lengua castellana* (Bern: Francke, 1954). But it is unlikely that the cedar ever grew on the Mediterranean coast. Actually, there is little to choose between *arz* (cedar) and *ar'ar* (thuya) as possible roots of "alerce." The Latin *Larix* (larch) seems more plausible, but there are no deciduous conifers in Morocco.

The reference is to "madera de los alerces, que los hay en Vélez y muchos y no en otra parte de la costa." For the complete text, see M. Jiménez de la Espada, *La guerra del moro a fines del sigol XV* (Ceuta: Imprenta Africa, 1940), p. 16.

R. G. Albion, *Forests and Sea-Power* (Cambridge, Mass.: Harvard University Press, 1926), p. 183; Hellmuth Hopfner, "La evolución de los bosques de Castilla la Vieja en tiempos históricos," *Estudios Geográficos*, 15 (1954), 415–430.

175 311 tains of the upper Nkour. The same expression is applied to the mountains on the route between Vélez and Fez (probably the Sanhajan highlands), and to "Mount Seusaoen" (i.e., Shawen, probably Jbil Tisuka). Leo's account of the eastern sector of northern Morocco is very different. The plains of Garet are described as a desert, and the lower Moulouya Valley as being "unpleasant and dry," with "no water but that of the river Muluia."

Accounts of forest in the Rif highlands are to be expected, but it is surprising to find repeated references to forest on the Mediterranean coast. Similar accounts appear in the works of Arab writers of the twelfth and thirteenth centuries, and Strabo describes the Ceuta promontory as being clothed with a mantle of great trees. The frequent mentions of trees near Ceuta suggest a profound modification of vegetation in subsequent years. Accounts of shipbuilding and lumber trade indicate some commercial logging; the retreat of the forest near Ksar as-Srair, Ceuta, and Vélez might have been a direct result of these activities. Leo's reference to "great want of wood" at Arcila suggests that the hills and marine terraces of the Tangier-Tetuán-Arcila triangle had been cleared before his time, but extensive woods still existed in the basin of Wad Lukkus. His evaluation of the Moulouya Valley may have been prejudiced by previous exposure to more verdant areas, but "desert" does not mean forest, or even a rich formation of scrub.

AGENTS AND PROCESSES OF CHANGE

311 171 In northern Morocco today, the most important agents of deforestation are: (1) domestic and industrial consumption of wood, (2) burning to "improve" pastures and to clear fields for cultivation, and (3) destruction of palatable plant material by sheep and goats. These processes are evident even to the casual observer, but it is difficult to determine their relative importance. Despois believes that the principal causes of deforestation have always been the need for fuel and new land to till.[illegible] Braun-Blanquet describes the Mediterranean garrigues as "zoöbiotically conditioned communities."[illegible] Kuhnholtz-Lordat is convinced that the greatest agent of deterioration has been fire.[illegible]

Each emphasis is supported by abundant evidence, but it may be doubted whether the several causes of deforestation can be treated independently. A series of fires, if not too closely spaced, may not result in deforestation, but burning followed by heavy pasturing inevitably does. Most of the broad-leaf trees in northern Morocco reproduce themselves from shoots after being burned or felled, but in areas overrun by goats the shoots are browsed down and forest degenerates to scrub. In tangled brush formations it is often difficult to tell whether the main destructive agent has been fire, domestic animals, or man.

CONSUMPTION OF WOOD

372 354 171 Although kerosene lamps burn in many Moroccan homes, charcoal and wood are the only important domestic fuels.[illegible] Butane and electrical appliances are

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[illegible] Despois, *op. cit.*, p. 84, cited in note 13.

[113] [illegible] J. Braun-Blanquet, *Pflanzensoziologie: Grundzüge der Vegetationskunde* (2d ed., Vienna: Springer, 1951), p. 371.

[113] [illegible] G. Kuhnholtz-Lordat, *La Terre incendiée: essai d'agronomie comparée* (Nimes: Editions de la Maison Carrée, 1939), *passim*.

[113] [illegible] Anthracite of excellent quality has been mined at Djerada south of Oujda since 1931, but

372 seldom seen except in the European quarters of the larger towns. When a feast
354 is in prospect, food is sometimes boiled in earthen pots set about an open fire.
171 Wood fires also heat bake ovens. But most if not all Moroccan cooking is done
[252] over a charcoal brazier, consisting of an iron pot and tripod or simply an old gasoline tin. The brazier is used several times a day to boil water for tea; indeed, more fuel is consumed in this process than in cooking. Blacksmiths and other craftsmen rely upon charcoal, and lime kilns are found near every town.

372 Charcoal is a valuable fuel, for it has about twice the heating power of wood
314 and burns without flame or smoke. In Morocco wood is converted to charcoal
171 in shallow pits thinly covered with earth. But this process of partial combustion is extremely wasteful, since much of the volatile material in the wood is lost. The best charcoal is obtained from the denser hardwoods, especially the oaks. *Quercus Ilex* is the preferred wood, and this preference helps to explain the degraded aspect of most stands of this tree. The cork oak, the kermes oak, the oleaster, *Pistacia lentiscus, Rhus pentaphylla,* and *Arbutus Unedo* also yield excellent charcoal. Where the choice of wood is limited, many shrubs are utilized, and all available trees. No reliable estimate of the amount of charcoal annually consumed in northern Morocco has ever been published, but it must be enormous, for a charcoal brazier of some sort burns in every home. During any day of
[482] the year, women and animals may be seen carrying loads of wood or charcoal
[492] to the cities and towns (pl. 8, *b*).

342 Mud brick or stone usually forms the walls of houses, but wood is always
required for the rafters. In the deforested eastern sector, houses are built long
313 and narrow so that branches and twigs can be used as a covering. When avail-
171 able, slender riparian or coniferous trees are used as rafters, but in most of northern Morocco such trees cannot be obtained.

[137] Riparian forests are rare today apart from some canyons in the mountains, where the remaining stands of *Salix, Alnus, Populus, Vitex,* and *Crataegus* become thinner each year. *Nerium oleander,* the riparian "tree" of the hills and plains, is of little value in construction, and the oleaster and oaks are usually too massive or knarred.

The common type of house in Gal'aya and the Rif is well adapted to an environment poor in timber. In the Rifian dialect the word for "sloping roof" (*thazukha*) is the general word for all roofs, whereas a special word (*asthih*)
[174] is used for the now prevalent flat roofs. The fact that the generalized word for roof is the same as that for a sloping one indicates greater antiquity for the latter variety. There is evidence that flat and narrow houses of the eastern type have recently replaced dwellings demanding more wood along the entire western frontier of the Rif.

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[113] [372] [354] [171] [113] most of this production has been consumed by factories in the Casablanca district and by the railroads of northern Africa. Fernand Joly *et al.*, *Géographie du Maroc* (Paris: Delagrave, 1949), pp. 135–136.

The estimate of "four to five metric tons" published by the Spanish forestry service takes account only of commercial operations. E. González Vázquez, *El Marruecos forestal* (Madrid: Ediciones Técnicas, 1945), p. 72.

C. S. Coon, "Tribes of the Rif," *Harvard African Studies*, 9 (1931), 69.

Coon, *loc. cit.*, traces this change to the burning of houses during feuds in the pre-protectorate period, and to the fact that many families found it difficult to obtain lumber after the end of Abd al-Krim's rebellion. For evidence of changes in recent years, compare his map of house types (p. 71) with fig. 15 of the present study.

313 648 171 The great wooden gates that used to guard the openings of every city wall demonstrate the importance of the lumber trade. Only fragments of these gates still exist, but it is certain that most of them were made of cedar. Logging operations were greatly expanded by the Spanish after the Rifian tribes had been pacified. It is not an exaggeration to say that the mineral deposits and cedar forests of northern Morocco were the only compensations for Spain's investment in colonial prestige. Reliable estimates of the amount of timber cut since the beginning of the protectorate cannot be found, possibly because the Spanish claimed to be conserving and restoring the forests in their zone. With the backing of military force, the Spanish were able to exercise some control over cutting by the native population, but their own work proceeded without interruption or apparent regulation. Spanish officials point out that the forests being exploited were private property and that the forestry service was concerned only with public domain.

In 1956 sawmills operated throughout the year at Tetuán and Targist, and during the summer months trucks heavily loaded with cedar logs could be seen on every mountain road. The fir forests on Jbil Tisuka and Jbil Leshab had not yet been heavily logged when Spanish "protection" came to an end, but the deciduous oaks on Jbil Buhashim had been cut in quantity for use as railroad ties. These operations may have been a brief chapter in the history of the Moroccan forest, but it is probable that the Spanish, with modern equipment, cut more trees in a decade than the local tribesmen could destroy in a century. The effects of Spanish logging are strikingly evident in the Sanhajan highlands, especially on Adrar Dahdoh, Adrar Tidighin, and Adrar Tizi Ifri.

313 171 [185] This harsh judgment applies only to the exploitation of cedar and the deciduous oaks. A modest amount of reforestation was undertaken. A plantation of *Eucalyptus* was established north of Larache; Aleppo pines were planted near Rincón, Alhucemas, Nador, and Melilla; and an effort was made to prevent premature stripping of the cork oak.[illegible]

Profiting from long experience in Algeria, the Service des Eaux et Forêts carried out an elaborate program in French Morocco. The system advocated and partly enforced was based upon periodic and progressive thinnings, which were intended to reconcile the interests of the tribesmen with good forestry practice. If effectively enforced, this method would have permitted the production of fuel without waiting for the normal age of exploitation, and would have improved pastoral conditions by facilitating the movement and supervision of livestock.[illegible]

314 171 311 Tannin is extracted from the roots and bark of all the Moroccan oaks, and this operation frequently results in mutilation or death. The cork oak is especially vulnerable, for tannin is scraped from the delicate inner bark immediately after the corky tissue has been removed. Complete girdling destroys trees, and death may result if more than half of the circumference is damaged.[illegible] The tanners of Marrakech have been responsible for extensive deforestation in the

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[113] [illegible] The program planned by the Spanish forestry service is described in González Vázquez, *op. cit.*, pp. 97–185, cited in note 34; and J. Ruiz de la Torre, *La vegetación natural del norte de Marruecos y la elección de especies para su repoblación forestal* (Larache: Centro de Investigaciones Forestales, 1956).

[113] [illegible] For a brief account of French management, see J. P. Challot, "L'homme et la forêt marocaine," *Rev. des Eaux et Forêts*, 84 (1946), 233–261.

[illegible] Boudy, *op. cit.*, II (fasc. 1), 47 ff., cited in note 5.

314 311 171 High Atlas. Deforestation can be traced also to the tanners of Fez and Tetuán.[illegible] The tanners' guild in Fez goes back to the ninth century, when master tanners gathered at this site from Córdoba, Qayrawan, and distant Iran. Fez leather was once exported as far away as Baghdad, and shoes went to Egypt until the present century. During the peak years of production. Fez craftsmen tanned about 500,000 skins a year. The descendants of the original immigrant craftsmen are still busy making handbags, slippers, and other articles for the tourist and export trade.

It is not surprising that *Quercus Ilex,* an important source of tannin, should now be rare in the hills near Fez and Tetuán. There is good reason to believe that the holly oak once covered these hills. One well-informed botanist asserts that the primordial cover of the limestone mountains south of Tetuán probably was a "climax" forest of holly oak.[illegible] In Gal'aya and the eastern Rif, careless stripping of the bark of *Rhus pentaphylla,* a source of red dye, destroys many trees; "Morocco leather," a trade name in bookbinding, is customarily made from goatskin tanned with sumac.

EFFECTS OF BURNING

372 241 171 311 In the eastern Rif the plant cover is usually too sparse to maintain a fire, and on the Atlantic littoral there is little land left to clear. But between these areas is a large zone covered with forest or scrub that must be burned before the land can be plowed. Some attempt is usually made to control the spread of fire, but conflagrations develop when tinder-dry shrubs are fanned by brisk winds. Fire is employed also for the "improvement" of pasture, for increased blossoming ("bee pasture"), and probably for the mere pleasure of burning or out of carelessness.[illegible]

233 372 171 241 311 The importance of pastoral fires has been emphasized by most students of the Mediterranean landscape,[illegible] but in northern Morocco fires set to clear away noxious shrubbery or to facilitate movement of stock are less important than agricultural fires. Pastoral fires are neither necessary nor desirable where there are goats, for these animals thrive on woody browse and can break through the thickest scrub. Sheep outnumber goats only in the drier eastern sector, where impenetrable formations are rare. For every fire set to "improve" pasture, probably more than ten are set to prepare new fields for plowing.

372 311 Whatever its cause, fire is a major agent of deforestation. The difficulty is that there are many kinds of fires: quick fires that run over a thin mantle of vegetation, great conflagrations that consume thicker formations, fires that remain close to the ground, fires that extend to the crowns of trees. It makes a great deal of difference whether fires recur after five or after twenty-five years. Moreover, the important factor may be not the fire itself but what happens to an area after it has been burned.

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[113] [illegible] R. le Tourneau, L. Paye, and R. Guyot, "La corporation des tanneurs et l'industrie de la tannerie à Fès," *Hespéris,* 21 (1935), 167–240; A. Joly, "L'industrie à Tétouan," *Archives Marocaines,* 8, 15, 18 (1906–1912).

[113] [illegible] J. Ruiz de la Torre, *El matorral en Yebala (Marruecos español)* (Madrid: Instituto de Estudios Africanos, 1955), pp. 26–27, and the map showing the "natural area" of *Quercus Ilex.*

[113] [illegible] H. Marc, *Notes sur les forêts de l'Algérie* (Paris: Larose, 1930), p. 396, lists the causes of serious forest fires from 1886 to 1915 as "accidents" (8 per cent), "imprudence" (33 per cent), "intentional" (23 per cent), "unknown" (37 per cent).

[113] [illegible] G. Kuhnholtz-Lordat, "Influence des feux pastoraux dans la région méditerranéenne," *Jour. d'Agriculture Tropicale et de Botanique Appliquée,* 3 (1956), 785–791.

372 137 311 Plants that are somewhat resistant to fire or are stimulated to multiply and reproduce by fire have been called pyrophytes.[44] There are many kinds of pyrophytes, for resistance to or stimulation from fire may be achieved in several ways. The cork oak could be called a pyrophyte of passive resistance, for it is protected by thick insulating bark. Plants that send out new shoots after their aerial organs have been partly or completely destroyed might be described as pyrophytes of vegetative reaction. Budding may take place above ground, as in the thuya, or below ground, as in the kermes oak, palmetto, madrone, and numerous Mediterranean shrubs. Trees that cast deep shade (e.g., undisturbed holly oaks) could be termed pyrophytes of indirect resistance. Finally, some trees and shrubs that seed heavily and grow rapidly (e.g., Aleppo pine and species of *Cistus*) might be described as social pyrophytes.

372 114 137 311 This classification, derived from the pioneer work of Kuhnholtz-Lordat, has much to recommend it,[45] but, like all classifications, it has some faults. The passive resistance of the cork oak depends upon the lapse of time since the last stripping of the bark. Pyrophytes of vegetative reaction may be destroyed if fires recur in rapid succession. In northern Morocco it is hard to think of a good example of indirect resistance. Some stands of cork oak and holly oak have shaded floors and sparse underbrush, but during the dry season such formations may be inflammable. Again, although the Aleppo pine is an excellent pioneer, it may be exterminated if fires recur in rapid succession or if the young shoots are browsed.

372 137 311 Recurrent burning thus favors some plants and discourages others. Continuous repetition of brush fires produces communities rich in geophytes and therophytes. In much of northwestern Morocco, species of *Cistus* are the first shrubby pioneers.[46] They soon collect in extensive clumps, but die out after ten to fifteen years if not burned again. Large areas in Jbala and Ghmara, now covered with *Cistus monspeliensis*, *C. albidus*, and *C. ladaniferus*, probably were once covered with forests of cork oak or holly oak. Fires usually do not destroy the aerial organs of trees protected by thick bark, but the mortality rate rises sharply immediately after the bark has been stripped.[47]

When aerial organs are destroyed, both cork oak and holly oak reproduce from shoots. An occasional fire may even serve to regenerate a senile forest. But extreme care must be taken to prevent further destruction, for *Cistus*, *Erica*, and other heliophilous shrubs spread over the surface as soon as more light reaches the ground. Since the expanding secondary growth is highly inflammable, this process increases the danger of recurrent fires.[48] After several fires, the mesophytic plants are replaced by species more xerophytic as well as more heliophilous, indicating a change to drier soil conditions.[49]

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[44] Kuhnholtz-Lordat, *La Terre incendiée*, *passim*, cited in note 32.

[45] *Ibid.*, pp. 43 ff.

(113) [46] Because of its rapid growth and abundant crop of seeds, *Cistus* has been used in California to protect denuded slopes. Gustaf Juhren, "The Use of *Cistus* in Erosion Control," *Lasca Leaves*, Spring, 1956, pp. 26–29.

[47] See also Boudy, *op. cit.*, I, 663 ff., cited in note 5; and A. Dugelay, "La remise en valeur des forêts de chênes-lièges incendiées," *Rev. Forestière Française*, November, 1951, pp. 687–694.

[48] Boudy, *op. cit.*, I, 649, describes *Erica arborea* as an "élément ignicole par excellence."

(113) [49] On the effects of fire in similar environments, see A. W. Sampson, *Plant Succession on Burned Chaparral Lands in Northern California* (Berkeley: California Agricultural Experiment Station, 1944); R. S. Adamson, *The Vegetation of South Africa* (London: British Empire Vegetation Committee, 1938); W. B. Turrill, *The Plant Life of the Balkan Peninsula* (Oxford:

372 137 311 The main difference between the effects of fire in broad-leaf forests and in coniferous forests is that the latter, with the exception of the Barbary thuya, do not reproduce by coppice shoots. The resinous bark of maritime and Aleppo pines is highly inflammable, and since neither tree reproduces from shoots, burning is usually fatal. Yet both species, especially the Aleppo pine, are pyrophytes. Indeed, the presence of a large number of pine seedlings is a sure indication of recent burning. Both species produce abundant seed, and proliferation is encouraged by the destruction of competitive growth. If fifteen or more years have elapsed since a fire, the seedlings reach maturity and the ground is again littered with seeds; but recovery is thwarted by more frequent fires.

Little is known of the effects of fire on the Moroccan fir, but it is probably unimportant as an agent of deforestation. The three main stands of fir grow on the highest slopes of limestone mountains, where there is little underbrush. Furthermore, these mountains do not have sufficient surface water to support permanent human settlement. Goats driven to the mountains from the lower slopes have destroyed many seedlings, but there is little evidence of destructive forest fires. Nor is there evidence of destructive fires in relatively undisturbed stands of cedar. Such forests have little underbrush to serve as kindling, and the cedar itself does not burn easily. But fires may be serious where cedar forests have been invaded by secondary growth. Most of the shrubs common in open stands of cedar—*Cistus, Daphne, Genista, Cystius, Thymus,* and *Halimium*—are highly inflammable. Occasional fires followed by long periods free of disturbance generally do not cause deforestation, but deforestation results when seedlings are destroyed before they can produce seed. The critical interval is disadvantageously long, for the Atlas cedar does not produce abundant seed until it is forty to fifty years old.

DESTRUCTION BY DOMESTIC ANIMALS

233 311 It would be hard to overemphasize the destruction wrought by grazing and browsing. More than half a million sheep and over a million goats are maintained in this zone. These figures are impressive, but the striking fact is that so large a number of animals are maintained by sedentary farmers. No tribe in northern Morocco is nomadic, and only the Ulad Stut and Aith Bu Yihyi practice transhumance. The main types of pastoral disturbance are well described by Braun-Blanquet.[illegible] Heavy pasturing causes: (1) withdrawal of large quantities of plant matter, (2) mechanical damage to plants by grazing, browsing, and trampling, (3) selective destruction of desired plants, (4) introduction of nitrophilous communities, and (5) alteration of microrelief.

The few cattle and camels kept in northern Morocco probably are not important agents of deforestation. Both animals are used almost exclusively for draft purposes, and few villages can afford to maintain more than one team. Authorities disagree on whether sheep have been significant factors in the process of deforestation. Most of the sheep in northern Morocco are in the drier and warmer parts of the zone, i.e., Garet and the eastern Rif. Woody plants are too

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[113] Clarendon Press, 1929); and B. O. Coventry, "Denudation of the Punjab Hills," *Indian Forest Records,* 14 (1929), 49–78.

[illegible] Braun-Blanquet, *op cit.*, pp. 367–368, cited in note 31.

233 311 tough and massive to be adversely affected by grazing, but sheep can destroy shoots and seedlings, particularly those of the resinous trees.[61] The presence of monotonous formations of *Stipa tenacissima* in the lower Moulouya Valley and on the Algerian Hauts-Plateaux probably indicates overgrazing, for a history of excessive grazing may be inferred wherever hard tussock grasses have replaced more palatable growth.

Where goats are numerous, deforestation is accelerated, for no hillside is too steep to daunt this very agile creature, and few plants escape its voracious appetite (pl. 8, *a*).^ In Arcila, goats scale the nearly vertical Portuguese walls, and in the Sous Valley they climb into *Argania* trees. Not content with the grazing of grass, goats tear it up by the roots. When woody browse is exhausted, the soil itself is grazed in an attempt to get at the seeds of grasses and other plants. It is not surprising that the goat should be described as an "ecologic dominant,"[62] and that many naturalists would like to see it become extinct, except in zoos.[63]

[372] The most serious deforestation occurs when heavy browsing follows burning. Premature browsing or grazing results in the destruction of seedlings before they can produce a new crop of seeds. The French forestry service has ruled that burned areas should be closed to pasture for at least six years. The recovery of cedar forests may be thwarted if excessive browsing takes place within twenty years.[64]

311 137 The best-known relict of the cedars of Lebanon, a stand of several hundred trees, is protected from vandalism by a church and from goats by a stone wall.[65] In open places in the Mamora forest, young cork oaks survive only within a protective cluster of palmetto. On the semiarid plains of northeastern Morocco, *Pistacia atlantica* rarely survives unless it is protected by a spiny hedge of zizyphus or sumac (*Rhus pentaphylla*), and in the Sous Valley the latter species plays an even more vital role as a protector of young *Argania* trees. In the mountains of northern Morocco, seedlings of cedar, pine, and fir are protected by the armature of the juniper. Elsewhere on the Mediterranean versant, young trees may be protected by *Genista*, *Calycotome*, *Ulex*, and other thorny Leguminosae.

311 233 372 137 Trees that reproduce by coppice shoots are seldom completely destroyed, but excessive browsing may reduce them to shrub form. In the geographic textbooks the scrub or dwarf state of the Mediterranean woodland is often described as a consequence of the Mediterranean precipitation regime. The error of this generalization is manifest in the holly oak. That the stunted and deformed appearance of this tree results from fire-induced sprouting and browsing is evident when stately trees growing on protected sites are compared with the prevalent forms. Neither climate nor any other element of the inanimate environment can explain

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[61] Boudy, *op. cit.*, I, 616, is more emphatic: "Il est d'observation courante au Maroc, comme en Algérie, que dans tous les massifs de résineux où le parcours des moutons est intense, il n'y a pas de régénération et que ces massifs sont condamnés à disparaître à plus ou moins longue échéance."

[113] [62] Marston Bates, "Man as an Agent in the Spread of Organisms," in Thomas, *op. cit.*, p. 798, cited in note 7.

[113] [63] Raymond Furon, "The Gentle Little Goat: Arch Despoiler of the Earth," *The Unesco Courier*, January, 1958, pp. 30–32.

[64] Cf. Boudy's comment, *op. cit.*, II, 552: "Régénération de la cédraie et pâturage sont choses incompatibles." The prerequisites of recovery probably include at least three or four years of unusually heavy precipitation.

[113] [65] W. C. Lowdermilk, "Lessons from the Old World to the Americas in Land Use," *Smithsonian Inst. Ann. Rept. 1943* (Washington, D.C., 1944), p. 416.

A, [See p. 132--Analyst]

7: Mikesell K-4,5 (1955-1957) 1961 MX3 Rif MX3
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the stunted form of this tree. The same remarks apply to dwarf forms of thuya and oleaster. On protected sites even the palmetto may become a tree and, when disturbance is manifest, dwarf forms of cedar develop.

VEGETATION ON SACRED SITES

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Throughout Morocco and to some extent elsewhere in the Muslim world, cemeteries are regarded as sacred ground. Sanctity is ascribed also to the areas adjacent to tombs or shrines of saints (*murabitin*). The cult of saints has been an important factor in Moroccan history, and tombs or shrines are found in the territory of each tribe.[illegible]

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Sacred sites often constitute islands of verdure. This correlation is not unique. In *The Golden Bough* Sir James Frazer describes sacred woods in many parts of the world.[illegible] The interesting feature of the Moroccan situation is that such groves are extraordinarily numerous and that the veneration relates to the ground in which plants grow and not to the plants themselves.[illegible] Protected growth is usually more dense than the growth on adjacent profane land, and the height and girth of individual plants exceed those of plants growing on unprotected land. Some species (e.g., *Pistacia lentiscus* and *Chamaerops humilis*) rarely achieve arborescent forms on unprotected sites.

The nature of the protected growth varies from a single shrub or tree to thickets and groves. Figure 25 shows the silhouettes of vegetation on a few sacred sites. These examples, selected from hundreds, illustrate the general pattern (cf. pl. 9, *a* and *b*).A

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Figure 25, *a*, shows a few mature cedars surrounded by a dense growth of holly oak. The prevalent vegetation in this area is a shrub formation dominated by *Cistus laurifolius*. There are no other cedars within a radius of several hundred meters, and holly oaks, apart from those on sacred sites, are in scrub form. It is evident that succession has resulted in a retrogression from cedar to oak forest and then to a sparse cover of shrubs.

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Figure 25, *b*, illustrates a protected formation dominated by oleasters (cf. pl. 9, *a*). *Pistacia lentiscus* becomes prominent where oleasters are widely spaced and light reaches the ground freely. Palmetto and thuya, even more heliophilous, are confined to the edges of the protected growth. In the surrounding area the vegetation is limited to shrubs. Numerous other examples of oleaster groves fringed with pistacia and palmetto could be described. A handsome grove appears at the tomb of Sidi Manari on Cape Malabata opposite Tangier. Five groves appear on one ridge between Tangier and Tetuán. Others appear on the marine terraces between Tangier and Arcila, and on the lower slopes of the limestone mountains

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[illegible] E. Lévi-Provençal, "Marabout," in H. A. R. Gibb and J. H. Kramers, eds., *Shorter Encyclopaedia of Islam* (Leiden: E. J. Brill, 1953), pp. 325–326; Emile Dermenghem, *Le Culte des saints dans l'Islam maghrébin* (Paris: Gallimard, 1954); Edward Westermarck, *Ritual and Belief in Morocco* (London: Macmillan and Co., Ltd., 1926). R [113]

[illegible] Sir James Frazer, *The Magic Art and the Evolution of Kings* (New York: The Macmillan Co., 1935). Part I of *The Golden Bough*. R [113]

[illegible] J. Cola Alberich, *Cultos primitivos de Marruecos* (Madrid: Instituto de Estudios Africanos, 1954), refers to tree worship (*dendrolatría*), but the evidence he cites relates to popular ideas of the medicinal and magical qualities of plant material (leaves, seeds, acorns, etc.) and not to the sanctity of plants as such. It is possible, for example, to recognize magical qualities in pine cones and yet have no reluctance to destroy or mutilate pine trees. In Morocco the important consideration is not what qualities a plant may possess but *where* it grows. R [113]

A, [See p. 133--Analyst]

7: Mikesell K-4,5 (1955-1957) 1961 MX3 Rif MX3
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R 133 137 would have included a large proportion of thorny plants. The exceptionally mesophytic species, *Abies pinsapo, Cedrus atlantica,* and *Quercus pyrenaica,* would presumably be restricted to the mountains even if all destructive activity came to an end. But moderately xerophytic and heliophilous trees, the oleaster and the evergreen oak, would occupy larger territories. Under favorable conditions the Barbary thuya would probably be taller and more closely spaced, and the formation described as thorn scrub would be a xerophytic woodland, dominated by *Pistacia atlantica* and *Rhus pentaphylla.*

R 133 137 311 If cutting, browsing, and burning ceased, most of the area now covered with palmetto scrub would eventually be clothed with forests of oleaster, cork oak, and holly oak. The primordial ranges of oleaster and cork oak would be determined by edaphic and climatic factors. The cork oak, which cannot grow on calcareous soils, would occupy the Pliocene terraces of the Atlantic littoral, the sandstone outliers of the Rif chain, and the slopes of intermediate elevation in the schistose highlands. Some connection may have existed between the cork forests of the central highlands and the small stand of *Quercus Suber* in the mountains immediately east of Wad Nkour. A solitary cork oak grows on a sacred site near the summit of Adrar Gurugú (885 meters). Recent dunes on the Atlantic and Mediterranean coasts probably were once covered with *Juniperus phoenicea.*[illegible] In heavy clay soils the cork oak would give way to *Olea europaea* and *Pistacia lentiscus,* which would cover the lower slopes of the limestone mountains also. The sacred groves west of Ceuta and Shawen exemplify the natural state of this formation.

At higher elevations in the limestone mountains the natural forest was probably dominated by holly oak. It is necessary to postulate such a forest even though there is little evidence of it today. The agents responsible for the destruction and mutilation of *Quercus Ilex* have already been described. As we have noted, this tree is tolerant of most soils and has the widest range of any Moroccan tree (fig. 7).

The natural province of the Moroccan fir would be about the same as its present range, above 1,500 meters in the limestone mountains. At present this genus is restricted to the mountains east and southeast of Shawen. The only other peak in the calcareous chain high enough to support fir forests is Jbil Kelti (1,927 meters). Destructive processes, especially browsing by goats, have reduced the density of the remaining stands, but it is not likely that fir forests covered any lowland area in historic time.

S 137 311 Changes of greater magnitude appear to have taken place in the cedar forests. The lower limit of this tree overlaps the upper limit of cultivation (pl. 6, *a*). A Retreat is especially evident on the northern slope of Adrar Taghzut (fig. 28). S [778] At present the lower limit of the forest on this slope is at about 1,800 meters, but a single majestic cedar grows on the site of a shrine (Sidi Abd al-Grifar) in the bottom of a deep valley, 600 meters below the main stand. In the valley of Wad Ouergha, protected cedars are found at even lower elevations. In the

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R [113] [illegible] The red juniper is still scattered over the dunes between Rabat and Larache, but has been replaced by herbaceous growth and the Aleppo pine on the Mediterranean coast. On dune vegetation, see J. Ruiz de la Torre, "La vegetación natural del norte de Marruescos," *Notes Marocaines,* 9–10 (1957), 23–33; and Louis Emberger, *Notice phytogéographique sur une partie de la meseta marocaine septentrionale* (Montpellier: Causse, Graille, and Castelnau, 1931).

A, [See p. 130--Analyst]

S 137 311 bottoms of valleys, low nocturnal temperatures, caused by air drainage, probably favor the cedar; nevertheless, on many slopes the forest line appears to be 300–500 meters above its natural position.

R 133 137 Cedar forests do not regenerate unless pasturing is suppressed and there is an opportune cycle of wet years. Moreover, the subsoil and parent material must be loose enough to favor the development of seedlings and yet compact enough to retain moisture. A further prerequisite is that there must not be a thick cover of competitive shrubs. A single deforestation may drastically upset the natural equilibrium; if disturbance continues, recovery may be impossible. The mantle of cedars on relatively inaccessible slopes gives some indication of the appearance of the primordial forest (pl. 10, *a*).^ Figure 29 shows the trend of retrogression. On gentle slopes, undisturbed stands^ are dense, dark, and relatively free of underbrush. Steeper slopes, exposed to greater insolation, have an understory of shrubs and oaks. Burning or cutting followed by pasturing eliminates the cedar and reduces the oaks to scrub form. If disturbance continues, the plant cover degenerates to a sparse scrub of *Genista quadriflora, Juniperus Oxycedrus,* and *Cistus laurifolius.*

J 133 137 It is difficult to delimit the primordial pattern of the cedar forests. Forests probably existed on Jbil Kelti (1,927 meters), Jbil Sugna (1,600 meters), and Jbil Buhashim (1,681 meters), for a few cedars still grow on these peaks. The absence of cedars from Jbil Khsana (1,695 meters) is puzzling, since this peak receives abundant precipitation, and is composed of sandstone and schist, which weather into deep soils. R 133 137 At present no cedars appear east of Adrar Tizi Ifri, but they may once have clothed the highest peaks of the eastern Rif, including Adrar Hamam (1,930 meters) and Azru Akchar (2,011 meters). It cannot be proved that the cedar once grew beyond its present range, but the pattern of succession suggests that some stands may have been completely destroyed.*

R 137 311 The theory was presented, in chapter ii, that both the Aleppo and the maritime pine may be relicts which have been encouraged to advance by the destruction of competitive growth. If this notion is sound, the area originally covered with pines must have been even smaller than the present stands. This interpretation helps to explain the presence of pines in degraded forests of cedar and fir. However, human interference has probably caused a reduction of some stands of Aleppo pine, particularly on the Melilla peninsula and in the mountains southeast of Shawen. Disturbance might initially have encouraged expansion and then forced a new retreat. It is difficult to enlarge on this idea, for the existing stands of pine are too small and widely scattered to be placed accurately on the maps.

Prolonged disturbance and exploitation of the Barbary thuya have diminished the density of the remaining stands and reduced many trees to shrub form. The natural range of thuya in the western half of the zone can be traced without much difficulty. At higher altitudes on the Mediterranean versant, increased precipitation and lower winter temperatures favor cork oak and holly oak. On the Atlantic versant, climatic factors alone delimit the range. It is more difficult to trace a

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R [113] * Louis Emberger, *Aperçu général sur la végétation du Maroc* (Bern: Hans Huber, 1939), (ref. to map), seems to regard the primordial range of the cedar as essentially the same as the present range. Ruiz de la Torre, *El matorral en Yebala*, pp. 22–23, cited in note 41, suggests a natural extension to include the highest peaks of Ghmara and Jbala.

A, [See p. 134--Analyst]

137 311 limit in the area east of Wad Nkour. Emberger believes that most of the eastern lowlands were once covered with thuya. According to another study, undertaken by an engineer of the Spanish forestry service, the natural range of the thuya extended to all areas of residual soil from the Nkour Valley to Wad Moulouya. [114] These interpretations may be sound, but the evidence presented here suggests that the primordial cover of most of the eastern sector was a mixed formation of *Pistacia atlantica* and *Rhus pentaphylla* with scattered clumps of oleaster. The effect of prolonged disturbance has been to reduce the area covered by these species and to favor the expansion of alfa grass (*Stipa tenacissima*), dwarf sage (*Artemisia Herba alba*), and camel thorn (*Zizyphus lotus*).

There has been no study of plant succession in the arid and semiarid parts of northern Africa comparable in scope to Aubréville's monumental treatise on the effects of burning, clearing, and pasturing in tropical Africa. Deterioration of ranges and "xerophytism" have been reported for most of the pre-Saharan zone, but it is not yet possible to determine the extent of change. The American statesman-scholar George P. Marsh argued long ago "that forests would soon cover many parts of the Arabian and African deserts, if man and domestic animals, especially the goat and camel, were banished from them." In recent years a number of French scholars have expressed doubts concerning the theory that the vast formations of alfa grass and dwarf sage on the Algerian plateaus developed as a result of the semiarid climate. After careful study of scattered stands of *Acacia gummifera* on the arid littoral of Morocco, south of Agadir, Charles Sauvage questions whether the zone between Anti Atlas and Wad Dra should be described as asylvatic. Basing his conclusions on the wide occurrence of acacias in the desert, one author speaks of the primordial forests of the Sahara. Sixty years ago another naturalist discovered that many of the wadis in the Egyptian desert were named after trees that had since disappeared. Thus we have evidence that the effects of human disturbance have been felt even in the Sahara, and that aridity does not prevent the growth of some trees.

778 137 311 In the semiarid sector of northern Morocco it is possible to reconstruct vegetational changes with the aid of relict formations preserved on sacred sites. At the shrine of Sidi Seddic, on the border of the territories of Ulad Stut and Aith Bu Yihyi, a majestic oleaster, surrounded by sumac, is in striking contrast to the prevalent cover of dwarf sage. *Pistacia atlantica*, one of the few trees of northern Africa that can grow on heavy alluvial soils, appears on several sacred sites in

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137 311 113

Emberger, *Aperçu général sur la végétation du Maroc*, pp. 71–78.

J. Ruíz de la Torre, "La vegetación natural del norte de Marruecos," *Notes Marocaines*, 9–10 (1957), 30–33.

André Aubréville, *Climats, forêts et désertification de l'Afrique tropicale* (Paris: Editions Maritimes et Coloniales, 1949).

George P. Marsh, *The Earth as Modified by Human Action: A Last Edition of "Man and Nature"* (New York: Scribner's Sons, 1885), p. 149.

According to Emberger, *Aperçu général sur la végétation du Maroc*, p. 68, "Les prairies d'halfa peuvent représenter d'anciennes forêts de *Juniperus phoenicia*, parfois même de *Callitris* et même de *Quercus Ilex*." Buffault, "Le déboisement de l'Afrique du Nord," p. 481, cited in note 15, also accepts the notion of a primordial forest on the Hauts-Plateaux.

Ch. Sauvage, "Les environs de Goulimine: carrefour botanique," in *Volume jubilaire de la Société des Sciences Naturelles du Maroc* (Rabat, 1948), pp. 107–146.

L. Lavauden, "Les forêts du Sahara," *Rev. des Eaux et Forêts*, 65 (1927), 265–277.

E. A. Floyer, "Disappearance of Desert Plants in Egypt," *Kew Bull. Miscell. Information*, 72 (1892).

7: Mikesell K-4,S (1955-1957) 1961 MX3 Rif MX3
Jebala MX2

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134 practice to allow sheep to graze on stubble, many slopes are completely bare when
311 the first rains fall. Erosion is retarded during spring and summer when a part
[312] of the runoff is diverted into irrigation ditches, but the irrigation systems promptly
disintegrate at the beginning of the rainy season, and runoff again follows the
R network of gullies (pl. 11, *a*).

133 Gullying is most severe in the hilly areas of the Rif. The basins of Wad Ghis,
134 Wad Nkour, and Wad Kert show an intricate pattern of short, steep slopes. "Ghis"
means "mud" in Arabic, and most of the mud comes from the denuded highlands.
The lower course of each river is joined by deeply entrenched tributary streams
cutting through old fans and terraces. In Targist, Thimsaman, and Tafarsith
the best farms are on fragments of Pliocene conglomerate, isolated from one another by deep ravines. Badland topogrophy covers most of the area between Wad
R
133 Nkour and Wad Kert. This may be described as an erosion-induced hoe-culture,
134 for slopes are so badly dissected that it is no longer possible to use plows. The
241 desperate effort to produce grain is abandoned only when the harvest does not
311 repay the investment in seed. Cereals are sown in gullies and on nearly vertical
slopes. The Spanish learned to their dismay that hungry Rifians try to cultivate
even the roadbeds. The plains of Garet and the lower Kert constitute islands of
alluvium in a sea of denuded terrain. Serious erosion becomes evident as soon
as one passes to older terrace and residual soils. The hills of Ikibdhanen and the
volcanic eminence of Gurugú are as bare as the limestone peaks.

J The pattern of gullies and rills continues into the hills of Jbala and Ghmara,
R but the most serious problem in these areas is sliding. The roads from Tetuán
133 to Tangier and Shawen are blocked by slides every year. In Anjra and Fahs
134 one is never out of sight of a slide scar. Gullying is less serious than in the eastern
sector, but streams are slightly entrenched even in the rolling country south of
Tangier, and the marine terraces between Arcila and Larache are cut by deep
barrancas.[illegible]

R
[113] [illegible] René Raynal, "Bodenerosion in Marokko," *Wissenschaftliche Zeitschrift der Martin-Luther-Universität Halle-Wittenberg*, 5 (1956–1957), 885–894.

/209 cont./

619 131 territory of the Koutama and of Taghzout. Badès, according to Idrisi, was the eastern limit of the bloc of the Ghomara; the present Spanish name of Peñon de Vélez de la Gomera would suffice to prove that it was their port.

To the East were still found, between Badès and Ghassasa, in the vicinity of the cape Tres Forcas, Senhajian and Ghomarian populations, which, in the first centuries of the Hejira, had constituted the kingdom of Nekor of the Banou Salih, before the destruction of the town of Nekor at the beginning of the eleventh century (2).

2. Ibn Khaldoun, Vol. II, p. 139.

[648] Moreover it is not impossible that the internal wars that deeply disturbed the life of this small State were caused by the permanent hostility of the two races.

175 648 What were the historic causes of the attack led by the Senhaja against the country of the Ghomara? Already at the time of Idrisi in the twelfth century, the latter had suffered a serious check, since their territory had been reduced toward the South, to the advantage of the Senhaja, by a just punishment from God, "because of their numerous sins, the weakness of their Islam, their perseverance in practicing adultery with complete freedom," and all their other crimes (3).

[113] 3. El Idrisi, Description de l'Afrique et de l'Espagne /Description of Africa and Spain/, text p. 170.

It is the succession of defeats that they suffered that is alluded to, as we have seen, in the classification of "Bou Tyour," /210/ in which the Ghomara are represented by animals "capable of being eaten."

But it is not possible to explain solely by the advance of Senhaja elements, who doubtless came originally from the Moyen Atlas /Middle Atlas/ for the acquisition of better lands,

/240 cont./

628 But in these less wild regions, the periods of calm are never-
182 theless short and do not leave these rudimentary institutions
642 /241/ time to perfect themselves. Anarchy and fights by families infuriated by vengeances have never permitted the Riffians to know a government by regularly elected leaders, changed in
628 turn, or the use of common funds. Only the holy-war treasuries,
652 organized by pious establishments, existed at all times. Hate
721 for the Christian can indeed dominate the strongest feelings;
798 whatever may be the violence of the disputes that divide them,
182 the notables always agree enough to go shares in small sums of money intended for the purchase of bullets in order to go to aim at the detested soldiers of the "Peñon" /Rock/ of Alhucemas or Badès (1).

[113] 1. Compare A. Bernard, Les Confins algéro-marocains /The Algero-Moroccan Borders/, p. 89 and sqq.

000 XII. The republics of the Kabylie /Kabylia/. -- It is above all between the social organization of the Kabylie /Kabylia/ before the French conquest and that of the western Haut-Atlas /High Atlas/ that it is possible to multiply the comparisons in order to find profound analogies under the apparent differences. It is easy, as a matter of fact, to see that the small republics of the Tichka or of the Jbel Kest, sequestered in the high valleys of the South of Morocco, and the ones that have grown and prospered on the summits of the Djurjura live with similar institutions, share the same positive and limited ideal, suffer from identical ills, and are subject to the same rules of existence, to the same laws of development.

The territory of the "ᶜarch" is, as we have seen, equivalent to that of a small "taqbilt" of the Sous; both form, in the free state, autonomous and often even independent political units. But in one of the regions the slight density of the population of a country where human life is difficult, in the other the